



United States Department of Agriculture
Forest Service

Francis Marion National Forest

Draft Forest Plan Assessment

Francis Marion National Forest, Berkeley and Charleston Counties, South Carolina

Section 9_Multiple Uses:

- **9.1.2_Recreation Settings**
- **9.1.3_Recreation Opportunities: Developed**
- **9.1.4_Recreation Opportunities: Dispersed**
- **9.1.5_Recreation Access**
- **9.1.6_Scenic Character**

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**Francis Marion National Forest
Draft Forest Plan Assessment
Berkeley and Charleston Counties, South Carolina**

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9 Assessing Recreation Settings, Opportunities, Access and Scenic Character

9.1.1.1 Preliminary Findings

Preliminary findings associated with recreation include:

1. National goals for recreation management have changed since the 1996 Revised Land and Resource Management Plan.
2. Due to steady population growth and urbanization of surrounding areas, intensity of Forest recreation use is expected to increase over the next 15 years.
3. Recreation on the Forest contributes to the physical, mental, and spiritual health of people.
4. Visitors are generally satisfied with the way outdoor recreation settings are managed on the Francis Marion; however, a few exceptions warrant additional attention by recreation managers.
5. The Forest recreation budget is trending downward and fewer resources are available to maintain existing recreational facilities or to develop new ones.
6. Forest recreational visitors, while primarily local, do not reflect the racial nor gender composition of the State or counties in which it lies.
7. There are significant differences between local and nonlocal preferences for recreation settings, opportunities, facilities and services found on the Forest.
8. As one of the largest land bases for outdoor recreation in the State of South Carolina, the Francis Marion is uniquely suited to provide certain types of recreation opportunities that cannot be found elsewhere.
9. The Francis Marion National Forest is rarely recognized in State and local tourism planning, which focuses primarily on golf and beach resorts, and historic sites.
10. Recreation use of the Forest provided through special use permit has increased, 425 percent in 3 years. Demand for hiking/running events has increased most significantly.
11. Visitation to the Sewee Visitor Center has declined since 2008.
12. The Forest collaborates with many recreation-focused volunteer organizations and partners.
13. Some recreation sites are not being managed compatibly with the ROS (recreation opportunity spectrum) objectives of the larger area and some sites are not being managed compatibly with the management area prescriptions.
14. The 1996 Forest plan makes no mention of broader recreational planning efforts in which the Forest contributes, such as the Berkeley County Blueways paddling trail system, the Palmetto Trail, and the Southeast Coast Saltwater Paddling Trail. The 1996

Forest plan does not provide guidance on coordination of such recreation opportunities which span beyond Forest boundaries and require multi-management.

15. To date, the Forest provides 174 miles of Forest Service managed trail opportunities. 108 percent of the objective has been met to increase the trail system to 160 miles.
16. To date, the Forest provides recreational facilities with a total designed capacity of 1,414 PAOTs (people at one time). About 64 percent of the short-term PAOT objective and 54 percent of the long-term objective has been met.
17. An inventory update is needed to identify the appropriate ROS class for the Wambaw Creek Wilderness which allows for motorized boating; this is inconsistent with the current primitive setting objectives.
18. Only 13 percent of the Forest is managed as primitive or semi-primitive, despite its unique position to provide for these settings.
19. Providing a “range” or “diversity” of recreational opportunities is emphasized throughout the 1996 Forest plan as a Forest goal, desired future condition, and Forest standard. Conversely, the plan does not identify the distinctive role of the Forest to provide recreation or where management emphasis should be placed to achieve a sustainable recreation program.
20. Not all existing recreation uses and activities on the Forest are compatible.
21. There are unmanaged or illegal activities or uses, such as illegal off-trail OHV use, that impacts natural or cultural resources.

9.1.1.2 Overview

Planning Rule and Context

Recreation contributes to social and economic sustainability and provides opportunities to connect people with nature. The focus of the assessment for recreation is to identify and evaluate information about recreation settings and the uses, trends, and sustainability of recreation opportunities in the plan area; recreational preferences of the public; recreational access; and scenic character.

The 2012 planning rule directs that forest plans must provide for sustainable recreation (219.10(b))1(i). The rule defines this as “The set of recreation settings and opportunities on the National Forest System that is ecologically, economically, and socially sustainable for present and future generations”. (219.19) Sustainability is defined as:

The capability to meet the needs of the present generation without compromising the ability of future generations to meet their needs. For purposes of this part, “ecological sustainability” refers to the capability of ecosystems to maintain ecological integrity; “economic sustainability” refers to the capability of society to produce and consume or otherwise benefit from goods and services including contributions to jobs and market and nonmarket benefits; and “social sustainability” refers to the capability of society to support the network of relationships, traditions, culture, and activities that connect people to the land and to one another (219.19).

National Context and Trends

National goals for recreation management have changed since the 1996 Revised Land and Resource Management Plan. In *Connecting People with America's Great Outdoors: A Framework for Sustainable Recreation*, the 2010 report addresses the long-term sustainability of outdoor recreation in the USDA Forest Service and sets goals for managing recreation in the future. It concludes:

The benefits to American society that outdoor recreation provides are needed more today than ever before:

- America spends \$2 trillion dollars on crisis medical health care. Overweight, obesity, and physical inactivity are major risk factors for chronic diseases such as diabetes, cardiovascular disease, and cancer. Physical activity is an integral part of a healthy lifestyle, and outdoor recreation is the natural solution—a disease prevention solution—and part of the Nation's existing wellness infrastructure.
- The economic base of many communities is shifting as industries consolidate and relocate, and service and experience businesses rely on outdoor recreation for their customers and as quality of life attractions for employees.
- Population growth and land development demand more environmental services from a decreasing and fragmented land base, yet people become less familiar with, and respectful of, natural landscapes and historic sites every year.
- The increasingly urbanized and technology focused American population, including children, is losing touch with the contributions of public lands to the basic resources that affect their lives. Americans sense of place and national identity can be enhanced by experiencing historic sites and landscapes that represent the abundant natural and cultural heritage of the Nation.

At the same time, there are unprecedented challenges to providing quality recreation:

- Demographic shifts and lifestyle changes have greatly affected demand for recreation on national forests and grasslands. With 80 percent of our population living in cities, our country is the most urban it has ever been. For many, the only exposure to the natural environment is what they see on television and computer screens. Others find our existing recreation facilities and programs not in line with their cultural traditions.
- Growth of retiree communities and other population shifts have created population centers close to many public lands. This has resulted in many of our forests being enjoyed as regional and municipal parks adding additional strain on visitor facilities, services, and natural settings.
- The condition of our recreation and heritage assets has steadily diminished, resulting in a ballooning backlog of maintenance needs for recreation facilities, trails, and roads.
- Unmanaged recreation has contributed to degraded recreation settings, damaged heritage sites, unacceptable resource impacts, and conflicts between users.
- National economic conditions and mounting financial demands underscore the inadequacy of traditional funding sources to meet growing needs, yet user fees and private sector involvement to deliver services remain controversial to some.

The USDA Forest Service mission: “To sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations” and the

Agency's vision: "Renewing body and spirit, inspiring passion for the land" produce several guiding principles. The guiding principles for our mission and vision are:

- **Connecting people with their natural and cultural heritage** is a vital thread in the fabric of society. It contributes to the American identity and reminds people of the resources that sustain life: water, soil, food, and fiber. Moreover, recreation is the portal for understanding and caring for natural resources and public lands. It provides opportunities and motivation to advance from fun and attraction, through awareness, education and understanding, to a role of citizen stewardship: one of "giving back" and supporting sustained management of natural resources.
- **Recreational activity in the great outdoors promotes healthy lifestyles.** Combined with good nutrition, it contributes to improved physical, mental, and spiritual health, and a shift away from treating illness toward creating wellness.
- **Sustainability underlies all program decisions.** In order to sustain the benefits of outdoor recreation for present and future generations, the recreation program must address and work toward a sustainable balance among the three spheres of environmental, social, and economic conditions.
- **Community engagement is essential** for creating a sustainable recreation program. Our role is to serve as planners, facilitators, conveners, and collaborators, tapping the enormous energy and creativity of people in communities that care for and benefit from public lands, including both the private and public sectors.
- **National Forests and Grasslands are part of a larger landscape that includes:** other public lands; open spaces at the local, state, and Federal level; tribal lands; working farms and ranches; and towns and cities. Respecting and cultivating the relationships across all lands and communities is necessary to strengthen the health and vitality of each.
- **The recreation program is integrated into the larger agency mission.** By working together with other program areas to integrate program goals and service delivery, we maximize our contribution by connecting programs, people, and landscapes.

The report also states the Forest Service goals toward building on the foundation of the mission, vision, and guiding principles and the Agency will strive to:

- **Provide** a diverse range of quality natural and cultural-resource-based recreation opportunities in partnership with people and communities.
- **Protect** the natural, cultural, and scenic environment for present and future generations to enjoy.
- **Partner** with public and private recreation benefit providers that together we meet public needs and expectations.
- **Perform** and plan by implementing systems and processes to ensure: effective decisions, sound investments, and accountability; collaborative approaches to integrated solutions across the landscape; and enhanced professionalism of our workforce.

The following focus areas comprise some of the actions that will help the Agency achieve sustainable recreation programs on every national forest:

- **Restore and adapt recreation settings**

- o Through integrated research, analysis, planning, and quality design, restore the condition and function of our recreation facilities and settings, expanding and adapting them to reflect the diversity of cultures, abilities, family structure, and activities in our ever-changing society.
- o Resolve unmanaged recreation through a planned and properly designed network of roads, trails, and facilities, combined with educated citizen stewardship and partnerships, as well as field presence to provide quality recreation experiences while reducing the impacts of visitor use on the landscape.
- **Implement “green” operations**
 - o The recreation and tourism program will reduce its environmental footprint and serve as a model for our visitors and other providers by incorporating sustainable travel industry best practices; “green technology” for facility and trail construction; and environmental management systems in all aspects of our operations.
- **Enhance communities**
 - o Together with our communities and stakeholders, develop a common vision and define potential roles to sustain the economic and quality of life benefits of recreation and tourism assets within these destinations.
 - o Included will be shared infrastructure development, delivery of information, and provision of recreation services that addresses connections of urban areas and rural communities to the scenic attractions, historic places, and recreation opportunities of the national forests and grasslands.
 - o Community and state parks, other Federal and tribal lands, and local open space lands will be evaluated for connections with National Forest lands as well as for their own contributions, existing and potential, for meeting the outdoor recreation and tourism demands for the area.
- **Invest in special places**
 - o Evaluate areas within the National Forest system that have outstanding recreational, scenic, historic, or other values of high attractiveness for designation and management as special areas.
- **Forge strategic partnerships**
 - o Cultivate coalitions of recreation interest groups that will help provide recreational experiences, service activities, and environmental education for youth and adults that promote fitness, appreciation of nature and history, and citizen stewardship.
- **Promote citizen stewardship**
 - o Cultivate the energy, enthusiasm, and skills of private and nonprofit sector partners and volunteers to provide services and connect people to the land.
- **Know our visitors, community stakeholders, and other recreation providers**
 - o Stay current with demographic shifts, changing values and demands, data sources, new technologies, and management tools.
- **Provide the right information**
 - o Invest in consolidating and improving our external recreation information systems with an emphasis on quality, consistency, accessibility and convenience.

- **Develop a sustainable financial foundation**
 - o It is unlikely that appropriated funds will ever meet the total program need for providing excellent recreation opportunities while protecting the land. Program delivery will be balanced on a base of appropriated funds through expanded capacity by utilizing user fees, volunteers, private providers, and partners in the nonprofit sector.
 - o Proposed new development investments and program improvements will be evaluated along with the capacity to sustain existing ones. The gap between program needs and available resources will be identified along with options for closing the gap.

National outdoor recreation trends are described in *Outdoor Recreation Trends and Futures: A Technical Document Supporting the Forest Service 2010 RPA Assessment*. This publication presents a national study of outdoor recreation trends as part of the 2010 Renewable Resources Planning Act Assessment by the Forest Service. This national assessment describes the status and trends in outdoor recreation participation across the United States. Tracking these trends is especially important because of the large role outdoor recreation plays in American lifestyles, and because of the large investments and management responsibilities of both the public and private sectors as providers of recreation opportunities.

The report reviews past trends in outdoor recreation participation by Americans, describes in detail current outdoor recreation participation patterns and compares patterns across regional and demographic strata. It also describes recreation activity participation on public and private lands and providing projections of outdoor recreation participation out to the year 2060. There are several trends that are discussed in the report:

- The mix of outdoor activities chosen by Americans and the relative popularity of activities overall have been evolving over the last several decades.
- There is growth in outdoor recreation, including nature-based recreation, even though some traditional activities have been in decline.
- There is growth in the activities of “viewing and photographing nature”.
- Different segments of society chose different types and levels of participation in different mixes of outdoor activities.
- Youth do spend time outdoors, and for some, it is substantial.
- Public lands continue to be highly important for the recreation opportunities they offer.
- Visitation to public lands is stable to increasing for some, like National Park Service and Bureau of Land Management lands, visitation shows growth for U.S. Fish and Wildlife refuges and declining use for national forest lands.
- There are many different motivations for why people seek different forms of outdoor recreation and some segments of our society feel more constrained than others.
- Finally, the future trends project that nationally the five activities projected to grow fastest in per capita participation over the next 50 years are developed skiing, undeveloped skiing, challenge activities (caving, rock climbing, mountain biking, etc.), equestrian activities, and motorized water activities. The activities projected to decline include visiting primitive areas, motorized off-road activities, motorized snow activities, hunting, fishing and floating.

Statewide Recreation Context and Trends

In South Carolina, there is a wealth and variety of recreation settings, from the Blue Ridge Mountains and foothills, the rolling Piedmont, Sandhills, broad Coastal Plains, and the coastal barrier islands and expansive beaches of the Atlantic Ocean. The State has multiple entities that provide recreation, national parks, national forests, national wildlife refuges, State and county parks, city and local parks, and private and non-profit lands.

The Statewide Comprehensive Outdoor Recreation Plan (SCORP) is South Carolina's official document regarding outdoor recreation planning. The South Carolina Department of Parks, Recreation & Tourism, as the administrator of the National Park Service's Land and Water Conservation Fund (LWCF) program, must complete/update the plan every 5 years in order to receive LWCF monies. Several other Federal and State grant programs also utilize or reference the SCORP. The SCORP is currently being updated in 2013, for the period of 2013–2017.

Priorities for the upcoming SCORP will be assembled from many sources including various stakeholders and outdoor recreation user groups, colleges and universities, the USDI National Park Service, and citizens from across the State. The SCORP addresses anticipated trends and needs of outdoor recreation while focusing South Carolina on priorities that ensure sustainable results. The initial priorities for the 2103 SCORP include:

- **Promoting healthy lifestyles and communities:** Outdoor recreation, parks, and their associated amenities help keep South Carolinians and their communities fit and healthy. While the connection between health and outdoor recreation seems apparent, public health professionals and outdoor recreation providers have not always coordinated their efforts. South Carolina remains one of the top ten most obese states in the country. In 1996 South Carolina had a combined obesity and overweight rate of 51.4 percent. In 2001 it was 57.4 percent; and now the combined rate is 66.4 percent. Parks help build healthy communities by creating stable neighborhoods and strengthening community development. Outdoor recreation providers have not only the opportunity to impact the overall health of our State, but an obligation.
- **Stewardship of the resource:** Conserving South Carolina's natural resources will be a vital component of outdoor recreation planning for the next decade. The State's "green infrastructure" not only protects the physical characteristics of South Carolina's unique diversity of natural resources, but if utilized correctly, can be a critical building block for communities and sustained economic growth. As South Carolina's population continues to increase, the conservation of the State's natural resources becomes an important component of the successful formula for both sustained economic growth and a quality of life desired by our citizens.
- **Sustained economic benefits:** The economic benefits of outdoor recreation in South Carolina are significant. By utilizing and leveraging the State's outdoor recreation resources and attractions, we can promote tourism and create jobs that contribute millions of dollars to the State's economy. Perhaps the greatest value of parks, recreational lands, and their amenities lies in their ability to attract and keep citizens, entrepreneurs, businesses, and the growing number of retirees who locate for quality of life reasons.

Some additional points to consider from the 2008 SCORP include:

- The State has favorable weather conditions for recreation with an average temperature of 65 and an abundant water supply.

- There are continued population increases. Racial composition will continue to change as growth rates for Hispanic and Asian populations continue to grow faster than the State average.
- The State park system encompasses 47 state parks and over 80,000 acres.
- There are more than 2,793 miles of trails in the State. More than one-fourth (29.1 percent) of these trails are for water activities such as canoeing, rafting, and kayaking. Nearly 541 miles (19.4 percent) are hiking trails and 423.9 miles (15.2 percent) are for hiking and mountain biking. Equestrian trails total 413.3 miles and comprise 14.8 percent of the State's trails.
- Mirroring the State's population growth, the demand for new, updated, and expanded recreational facilities continues to increase. However, funding remains limited and recreational expenditures must be prioritized.
- Travel and tourism is a major economic impact to the State. Outdoor recreation plays an integral, yet largely untapped, role in South Carolina's burgeoning tourist industry.

Even though the SCORP mentions the untapped role that outdoor recreation has, the Francis Marion National Forest is rarely recognized in State and local tourism planning, which focuses primarily on golf and beach resorts, and historic sites.

Local Recreation Context and Trends

National Visitor Use Monitoring. A majority of visitors are "very satisfied" with the overall quality of their recreation experience on the Forest. Monitoring shows that major changes to facilities are not being demanded.

Visitor use monitoring surveys was conducted on the Francis Marion and Sumter National Forests in FY 2008 (and previously in 2002). Additional recreation satisfaction monitoring will be accomplished in 2012. NVUM indicated that there were some areas in user satisfaction that could be improved. The overall satisfaction results showed that almost 79 percent of the people who visited were very satisfied with the overall quality of their recreation experience. Another 16 percent were somewhat satisfied and less than 1 percent expressed any level of dissatisfaction.

- Developed sites and wilderness scores showed that developed facilities, access, and perception of safety all were above the 85 percent national satisfaction target. Access and perception of safety rated higher than 85 percent for undeveloped areas.
- The surveys did show that there are areas that could use improvement, including overnight sites (improve availability of recreation information and adequacy of signage), general forest areas (improve restroom cleanliness, in such areas as trailheads) and wilderness (improve adequacy of signage). The majority of the visiting population is very satisfied with road condition and adequacy of signage Forestwide. Over three-quarters of the visiting population also feel that road condition and adequacy of signage is very important.

Population Growth. Due to steady population growth and urbanization of surrounding areas, intensity of Forest recreation use is expected to increase over the next 15 years.

Data collected during 2008 Forest National Visitor Use Monitoring shows that the Forest receives approximately 430,000 visits per year. This averages to 1,200 visitors per day or 1 visit

for every acre of national forest in a 1-year period. Recreation use is expected to increase given predicted population growth trajectories and land use and development in surrounding counties.

According to the U.S. Census, between 1980 and 2010, the State's population increased by 48 percent, significantly higher than the U.S. average (see section 6 "Social and Economic Assessment"). Additionally, total population within the surrounding eight counties increased by an even greater percentage at 60 percent. The rapid population growth over the last 30 years suggests that this area is highly desirable to current and prospective residents. Population forecasts predict that growth will continue over the next 30 years, as well.

The population of Berkeley County alone grew 88 percent between 1980 and 2010. This is substantiated by the total number of housing units for Berkeley County which more than doubled from 1980 (31,771 units) to 2008 (65,367 units).

Population projections provided by the South Carolina Office of Research and Statistics indicate that, while the rate of population growth will decelerate when compared to decades prior to 1990, steady growth of 5 to 7 percent every 5 years and 10 to 12 percent every 10 years will still be experienced for Berkeley County, as illustrated in Figure 9-2.

Charleston County has also experienced steady population growth. The county's population grew approximately 26 percent between 1980 and 2010. According to the 2008 Charleston County Comprehensive Plan, the county can reasonably expect 85,000 new residents during the span of 2007 through 2020, resulting in a 2020 population of 425,000¹. Thus, it is also predicted to experience steady population growth into the future, with a predicted population gain of 19 percent over 10 years.

¹ Charleston County Comprehensive Plan Update Plan: adoption date November 18, 2008 by Ordinance No. 1567; Amended December 22, 2009 by Ordinance No. 1622; October 11, 2011 by Ordinance No. 1694; February 23, 2012 by Ordinance No. 1720; and May 8, 2012 by Ordinance No. 1722.

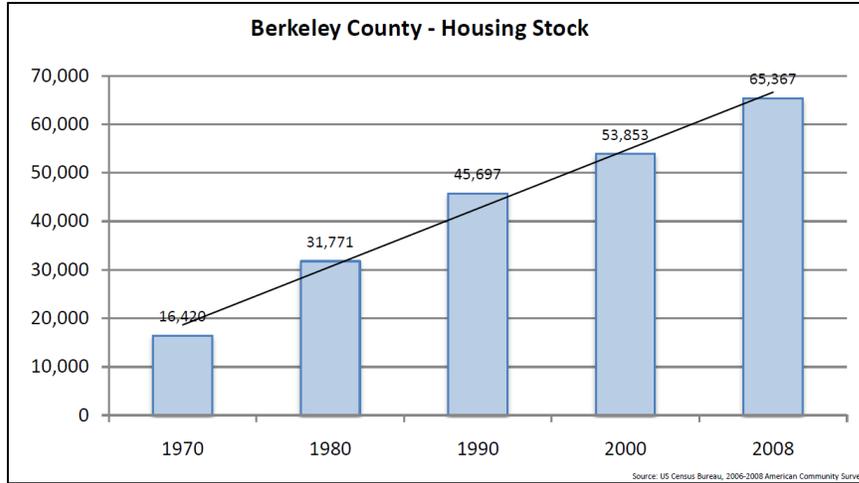


Figure 9-1. Insert caption

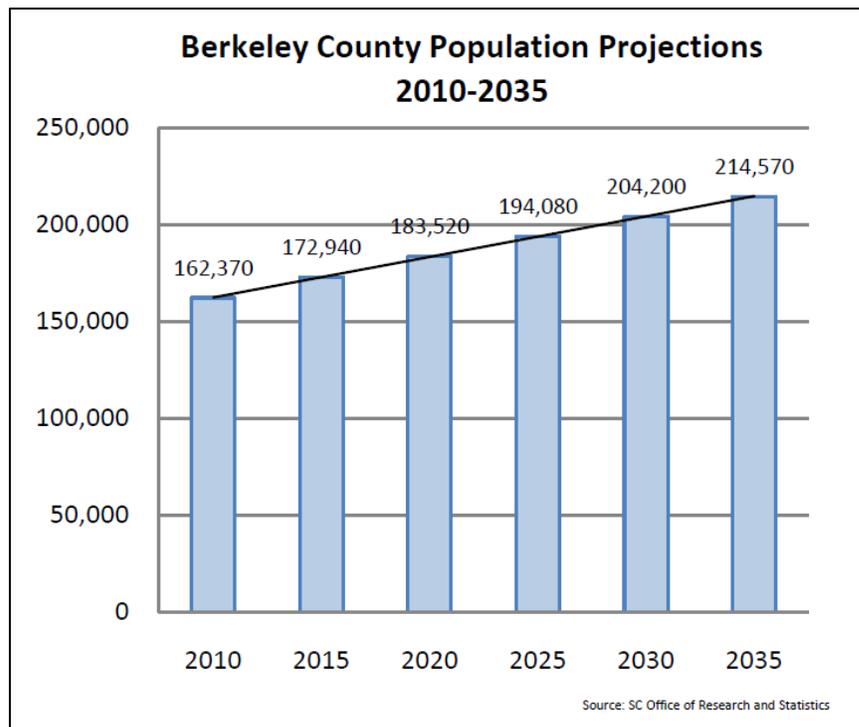


Figure 9-2. Insert caption

Source: Berkeley County Comprehensive Plan, 2010.

	1970	1980	1990	2000	2007 (Estimated)	2010 (Forecast)	2020 (Forecast)
Total County Population	247,650	276,974	295,039	309,969	339,516	357,127	425,000
Net Change over Previous Decade	31,268	+29,324	+18,065	+14,930	+29,574 (over 2000 population)	+47,158 (over 2000 population)	+67,873 (over 2010 population)
Percent Change over Previous Decade	+14.5%	+11.8%	+6.5%	+5.1%	+9.5% (over 2000 population)	+15% (over 2000 population)	+19% (over 2010 population)

2007 population estimated based on analysis of available recent population estimates
2010 and 2020 population forecasts based on 1.7% annual growth rate
Sources: U.S. Bureau of Census 1970, 1980, 1990, 2000, Miley, Gallo & Associates, LLC (2007)

Figure 9-3. Countywide population trends and estimates (1970–2020)

Land Use & Development. Existing land use maps of Berkeley and Charleston counties show that a large percentage of land is yet undeveloped. In 2008 approximately 70 percent of the land area in the unincorporated Charleston County was either forested or contained wetlands, marsh, and other water features. In Berkeley County 84.2 percent was undeveloped in 2010 (i.e., conserved, vacant, or devoted to agriculture or forestry), and of the remaining 15.8 percent, about half was occupied by single-family homes on parcels up to almost 500 acres in size.

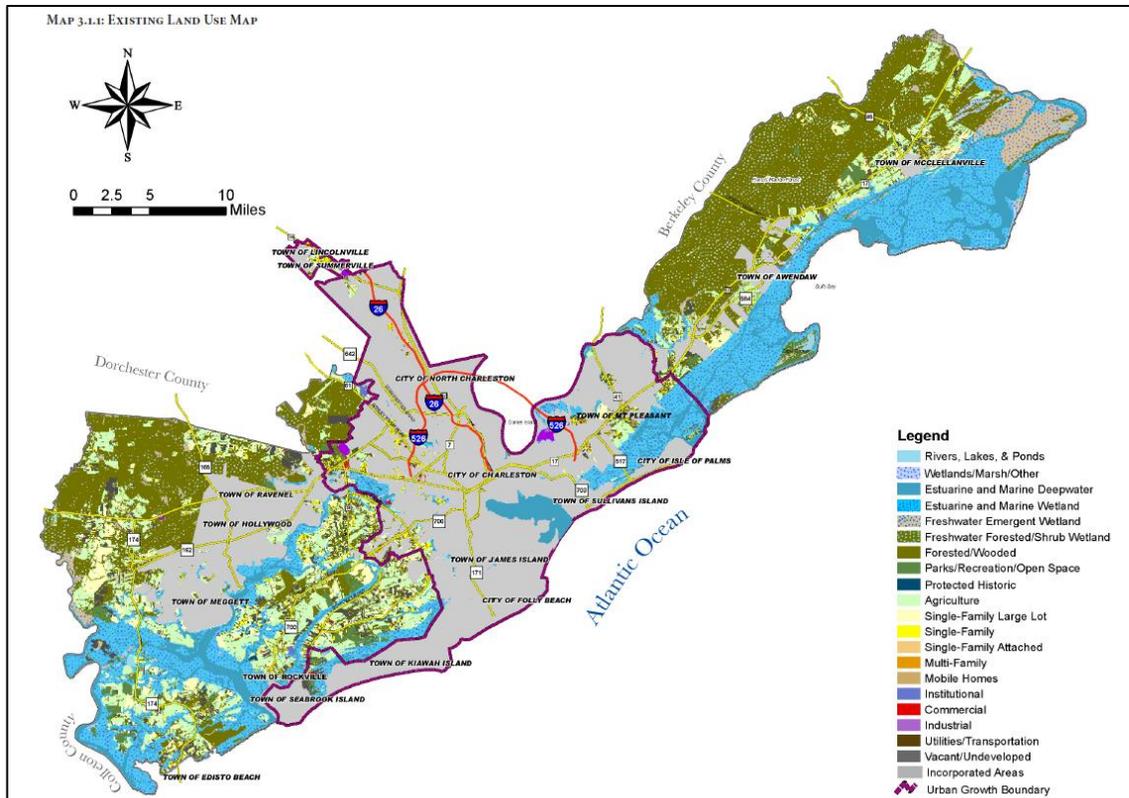


Figure 9-4. Land use map

Existing Land Use, Berkeley County – 2008

Over 80,000 parcels of property in Berkeley County constitute a total acreage of 686,099; the third largest county in South Carolina

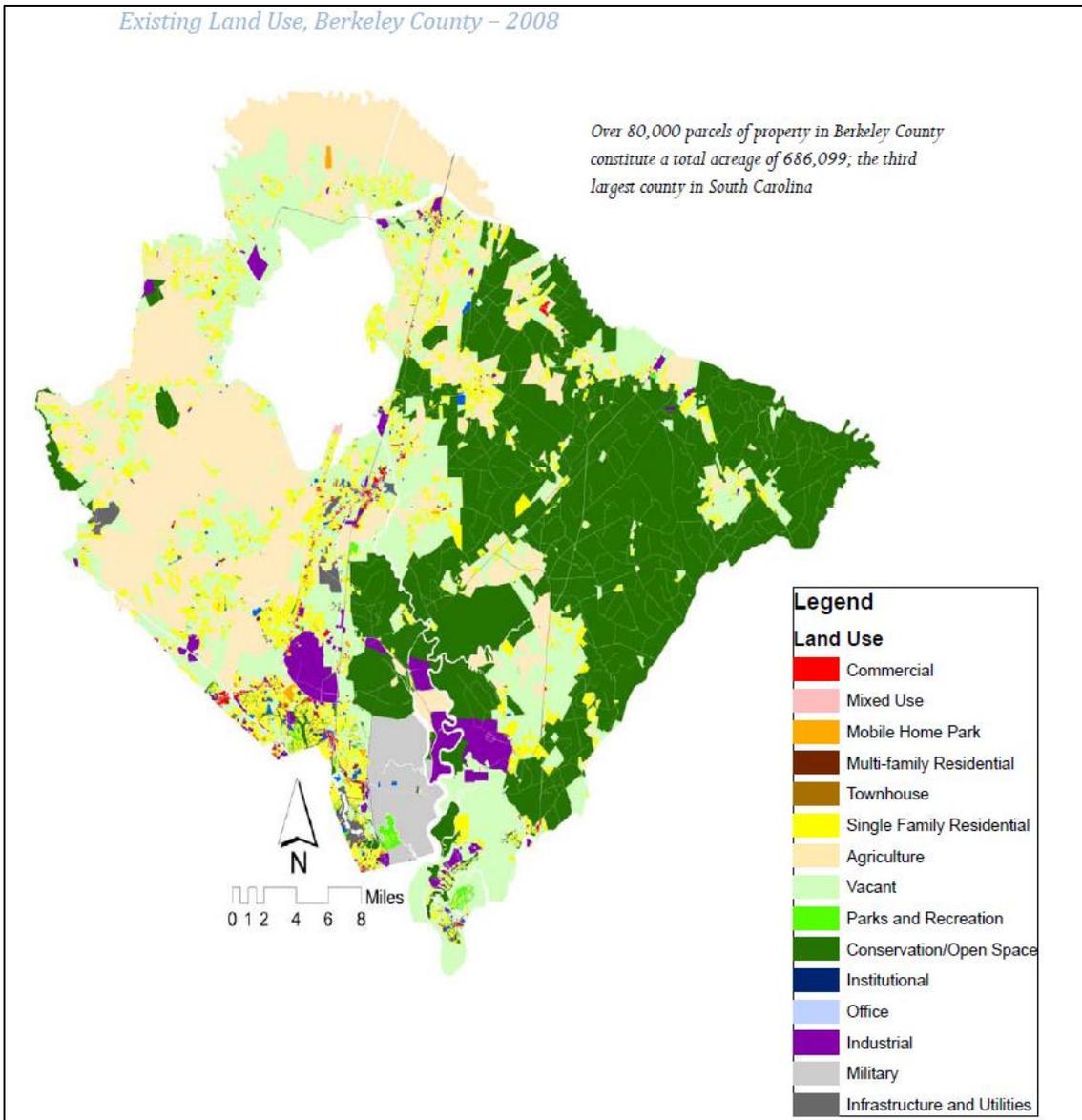


Figure 9-5. Land use map, Berkeley County (2008)

While much of Charleston and Berkeley counties remain undeveloped, both counties have experienced pressure to develop as population growth trends continue. According to the 2008 Charleston County Comprehensive Plan, since the 1970s municipalities within Charleston County have experienced not only natural population growth, but also substantial growth from the expansion of municipal boundaries by annexation. For example, in 1972 North Charleston had an area of 7 square miles. In 2007 North Charleston encompassed more than 73 square miles. Similarly, the physical size of the City of Charleston increased from 16.7 square miles in 1975 to almost 104 square miles in 2007. The Town of Mount Pleasant’s planning area, which includes both incorporated and unincorporated areas, increased from approximately 19.7 square miles in 1985 to approximately 51.7 square miles in 2007. Likewise, over the past several years, Berkeley County Council has adopted, by ordinance, development plans (planned development or PD) for future residential, commercial, and industrial projects that involve well in excess of 7,000 acres and nearly 21,000 residential dwelling units. Mixed-use (residential and commercial) planned developments already approved and/or under construction are shown in Figure 9-6.

Planned Development	Total Acres	Total DU	DU/Acre	Open Space	% of Open Space	Completion (Estimated)
A. The Parks of Berkeley	4,559	13,271	2.91	1,136	25%	2040
B. Wildcat Tract	2,010	5,778	2.87	351	17%	2030
C. Spring Grove Plantation	477	1,240	2.16	34	7%	2020
D. Lazy Hill	169	420	2.48	77	46%	2020
E. Boals Farm	32	130	4.06	-	-	2020
F. The Rivers Bend	22	120	5.45	16	73%	2020
Total	7,269	20,959	2.85	1,614	22%	

Figure 9-6. Berkeley County development plans for future residential, commercial, and industrial projects

To preserve the rural character of the area and control intensity of development, Berkeley and Charleston counties have both identified primary “growth areas” in their most recent comprehensive plans.

The growth management tool implemented by Charleston County is the urban growth boundary, which clearly defines two distinct growth management areas—the rural area and the urban/suburban area. The urban growth boundary implements the desired county policy to promote higher intensity growth in the urban/suburban area where adequate infrastructure and services are in place, at the same time allowing for preservation of the rural character of the majority of the County. The urban growth boundary shows the possibility for higher level of residential development within 5 miles of the Francis Marion, where it extends north of the Town of Mount Pleasant.

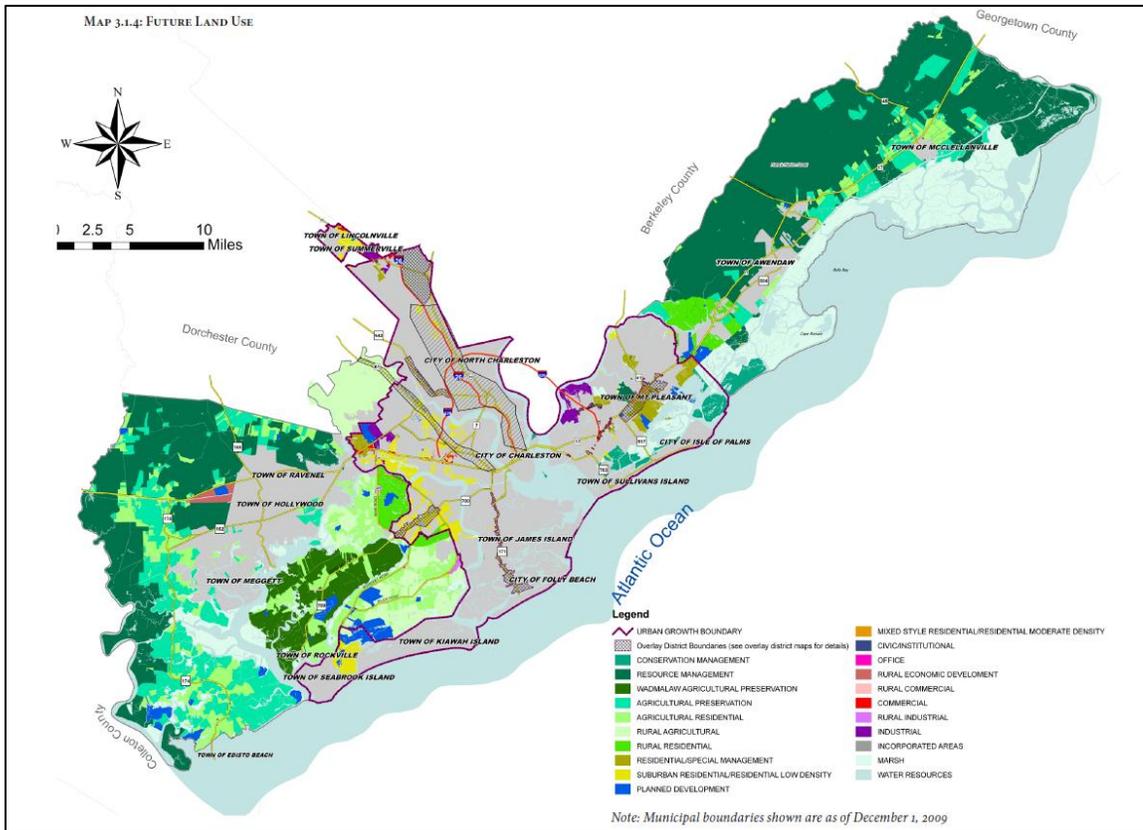


Figure 9-7. Urban growth boundary and growth management areas

The growth management tool implemented by Berkeley County is the designation of a defined principal growth area (PGA). The PGA is the area within which more intense development of various uses should occur, to be served by existing, and efficiently expanded infrastructure and other public facilities and services. It includes areas where “moderate density suburban” land use can occur, which can include single-family residential detached housing, multi-family housing, neighborhood-oriented commercial and/or mixed-uses, civic and recreation facilities. The PGA shows the possibility for higher level of residential development within 5 miles of the Francis Marion, along the entire western edge of the Forest. The largest area for development is the county seat, Moncks Corner, which is approximately 5 miles from the northwestern part of the Francis Marion.

As populations grow and become more densely located, additional areas will probably become urbanized and additional suburban sprawl will occur. Over time, sprawl will move larger populations closer to the Francis Marion, especially along its southern and western edges, thereby intensifying recreation use on the Forest.

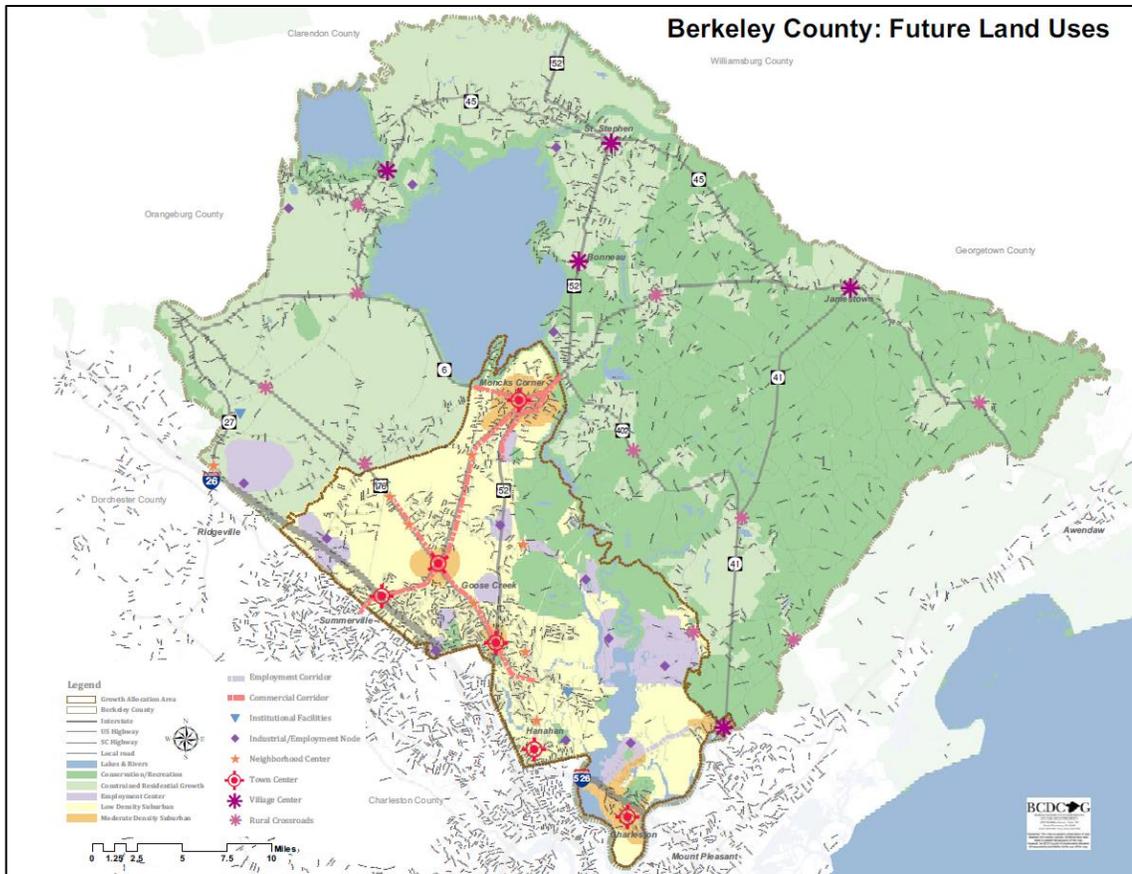


Figure 9-8. Berkeley County future land uses

Recreation Resources in the Planning Area

As one of the largest land bases for outdoor recreation in the State of South Carolina, the Francis Marion is uniquely suited to provide certain types of recreation opportunities that cannot be found elsewhere.

There are numerous publicly-owned recreation parks and facilities throughout the State of South Carolina, including national and state parks, state forests, wildlife refuges, heritage preserves, and local parks. However, due to its size, none can offer the diversity, scope, and scale of the Francis Marion National Forest.

Regionally, the Francis Marion National Forest lies in Berkeley and Charleston counties. The Forest lies between historic Charleston to the south and the beach of the Grand Strand to the north. South Carolinians and tourists to the State enjoy 190 miles of coastline. The coastal beaches are the State's greatest single attraction among the various natural, historic, and man-made recreational resources and are the focal point of the State's travel and tourism industry. The 60-mile Grand Strand that extends from northern Horry County south to Georgetown County contains some of the Atlantic Coast's longest unbroken stretches of beaches. Myrtle Beach is ranked nationally as the number two beach vacation destination in the country.

Further south along the coast, the semi-tropical barrier islands of Charleston, Colleton, Beaufort, and Jasper counties offer diverse recreational opportunities ranging from the elite, manicured resort developments of Hilton Head Island to undeveloped, wilderness areas such as Cape Romain Wildlife Refuge and Capers Island State Heritage Preserve. Other coastal resources

include 240 miles of Intracoastal Waterway, extensive saltwater marshes, and numerous bays and sounds.

Outdoor recreation in the area includes the following.

Cape Romain National Wildlife Refuge.

Established in 1932 as a migratory bird refuge, the U.S. Fish and Wildlife's Cape Romain National Wildlife Refuge, is 66,287 acres and encompasses a 20-mile segment of the Atlantic coast and includes a fascinating expanse of barrier islands, salt marshes, intricate coastal waterways, long sandy beaches, fresh and brackish water impoundments, and maritime forest. The refuge's original objectives were to preserve in public ownership habitat for waterfowl, shorebirds, and resident species. Bulls Island, at 5,000 acres, is the largest of the barrier islands within the refuge. It lies nearly 3 miles off the mainland and the broad, open beach is shell strewn and seems to stretch endlessly north and south.



Boneyard Beach, Bulls Island (David Okey photo)

Lake Moultrie. Lake Moultrie, owned by the South Carolina Public Service Authority, is a 60,000-acre reservoir and forms portions of the north boundary of the Francis Marion National Forest. This lake is the third largest in the State and is a significant fishery.

South Carolina Forestry Commission. The South Carolina Forestry Commission manages five State forests encompassing more than 90,000 acres in South Carolina: Sand Hills, Harbison, Poe Creek, Manchester, and Wee Tee. A wide range of outdoor recreational activities is offered and varies within each Forest. The largest State forest, Sand Hills State Forest, contains 46,000 acres and is located in Chesterfield and Darlington counties. Recreational opportunities include bird watching, nature study, hiking, hunting, fishing, and picnicking. Horseback riding, mountain bike riding, individual camping, and special events are also operated at Sand Hills on a fee basis. The closest State forest is the 12,439-acre Wee Tee State Forest, located in Williamsburg and Georgetown counties. The Forest contains more than 12 miles of frontage on the Santee River, as well as a 200-acre lake and numerous ponds and oxbows. The Forest is open from official sunrise to sunset on Wednesdays and Saturdays.

South Carolina Department of Natural Resources. The South Carolina Department of Natural Resources (SCDNR) currently manages 70 State heritage preserves totaling 81,409 acres throughout the State. These preserves range in size from 1 acre to more than 18,000 acres and are unique natural or cultural sites set aside for protection of the resource. Recreational opportunities at most sites include trails and wildlife observation, with organized nature and historical outings, picnicking, and hunting opportunities



Capers Island Heritage Preserve

provided at many of the preserves. State heritage preserves within Berkeley and Charleston counties include:

- Caper’s Island (1,203 acres, Charleston County)
- Childsbury (90 acres, Berkeley County)
- Dungannon Plantation (643 acres, Charleston County)
- Fort Lamar (14 acres, Charleston County)
- Bird Key-Stono (20 acres, Charleston County, open seasonally)
- Crab Bank (22 acres, Charleston County, open seasonally)
- Deveaux Bank (15 acres, Charleston County, open seasonally)
- Buzzard Island (1 acre, Charleston County, by tour only)

The South Carolina Department of Natural Resources (SCDNR) also manages over 1.1 million acres, including 820,082 acres of public and private land and 212,682 acres of SCDNR-owned lands, in the wildlife management area program. The wildlife management area program began in 1948 with an agreement between the Forest Service and SCDNR to manage 60,000 acres of the Francis Marion National Forest. Lands in the wildlife management area program are open for public recreational activities such as hunting, fishing, wildlife viewing and nature study. More than half of these lands (about 55 percent), are owned by the Forest Service; these include:

- Santee Coastal Reserve Wildlife Management Area (24,000 acres)
- Bonneau Ferry Wildlife Management Area (10,700 acres)
- Santee Delta Wildlife Management Area

South Carolina State Park Service. The South Carolina State Park Service encompasses 47 state parks totaling more than 80,000 acres. The Hampton Plantation State Park just across the Santee River from the Forest is the only South Carolina State Park in the planning area. It is home to the remote, final remnants of a colonial-era rice plantation and serves as an interpretive site for the system of slavery that helped build such plantations in South Carolina into the greatest generators of wealth in early American history. This park is a national historic landmark, the Georgian-style mansion and well-kept grounds serve as an interpretive site for the system of slavery that helped build such plantations in South Carolina into the greatest generators of wealth in early American history.



Hampton Plantation

National Park Service. The National Park Service manages several nationally-significant park, monument, military, battlefield and historic sites in the State. Congaree National Park is the largest of these sites at more than 22,000 acres. Other national park sites preserve and/or interpret sites from the Revolutionary and Civil wars. Fort Sumter and Fort Moultrie national monuments in Charleston County are two of the most visited National Park Service properties in

the State. National Park sites offer opportunities to explore the history of the Nation through historic buildings, documentaries, displays, trails, and tours.

U.S. Fish and Wildlife Service. There are eight national wildlife refuges in South Carolina managed by the U.S. Fish and Wildlife Service. Recreational activities vary by refuge but typically include fishing, canoeing/kayaking, hiking, wildlife observation, environmental education and nature study.

The *Waccamaw National Wildlife Refuge* is the State's newest refuge and includes portions of the Great Pee Dee, Little Pee Dee, and Waccamaw rivers in Horry, Marion and Georgetown counties. The Waccamaw Refuge currently consists of 9,000 acres, but has been approved for more than 55,000 acres.

The *Ernest F. Hollings ACE Basin National Wildlife Refuge* consists of two separate units totaling 11,815 acres: the Combahee Unit located near Yemassee (7,200 acres) and the Edisto Unit on the old Grove Plantation near Adams Run (4,564 acres). Recreational activities include hiking on 9 miles of trails/access roads, fishing in the tidal creeks and freshwater streams, a limited hunting program for waterfowl and deer, wildlife observation, photography, and nature study.

The *Cape Romain National Wildlife Refuge* is located in Charleston County, spanning 66,267 acres (including 20 miles of the Atlantic coast) and providing fishing, hunting, and wildlife observation opportunities in a wide range of environments including barrier islands, salt marshes, coastal waterways, fresh and brackish water impoundments, and maritime forest. It borders the Francis Marion National Forest to the east.

The 15,095-acre *Santee National Wildlife Refuge* in Clarendon County stretches for 18 miles along the northern shore of Lake Marion and hosts a visitors center, 4 miles of trails, fishing, and a wildlife observation tower.

The *Carolina Sand Hills National Wildlife Refuge* in Chesterfield County consists of 45,348 acres equipped with wildlife observation towers, photography blinds, interpretive displays, more than 4 miles of hiking trails, and picnicking facilities.

U.S. Army Corps of Engineers. The U.S. Army Corps of Engineers, Savannah District, manages 325,000 acres of land and water along the Savannah River. The three lake projects, Hartwell Dam and Lake (55,950 acres of water and 23,566 acres of land), Richard B. Russell Dam and Lake (26,653 acres of water and 27,019 acres of land), and J. Strom Thurmond Dam and Lake (70,000 acres of water and 80,701 acres of land), are among the largest Corps projects in the country. On Hartwell and J. Strom Thurmond lakes, the Corps operates and maintains more than 90 recreation areas and leases and many additional recreation areas to State and local agencies as well as private entities for operation and maintenance. The Corps operates only two small recreation facilities on Richard B. Russell Lake. Visitors to all three lakes enjoy a wide range of recreational activities including water sports, hunting, hiking, picnicking, camping, boat ramps and fishing.

Charleston County Park and Recreation Commission. The Charleston County Park and Recreation Commission offers a diverse system of park facilities, programs, and services. It manages many county parks, including several boat landings. According to the Charleston County Comprehensive Plan, a goal of the commission is to provide at least one county park within reasonable access of each population center in the county. Currently, only 2 percent of

land in Charleston County is used for public parks, recreation, and open space (Berkeley County Comprehensive Plan 2010). The county park system continues to expand, including purchasing two properties for future parks in the northern portion of the county adjacent and near or adjacent to the Francis Marion. County Parks is currently working on a long-range county master plan and it should be available during the planning timeframe for inclusion and consideration in this process.

Berkeley County. Berkeley County has many recreational resources, most of which are commonly found in association with the area's natural and cultural resources. Examples of these include: recreational boating at Lions Beach on the shore of Lake Moultrie; recreational boating on Lake Marion; Richardson Landing boat-launching facility at Bonneau Beach; boating and fishing on the upper Cooper River and Santee River; and the Berkeley County Blueways paddling trail system. According to the 2010 Berkeley Comprehensive Plan, less than 0.5 percent of Berkeley County's total acreage (686,099) is currently being used as parks or recreation spaces. The Berkeley County Blueways paddling trail system identifies over 175 miles of total water course from 23 trails and is a result of the vision and efforts of many individuals and organizations working in partnership. Many of the trails are on the Francis Marion.

Local Cities. Local cities of Mount Pleasant, Charleston, Monks Corner and smaller towns such as Awendaw and villages like McClellanville, also provide outdoor recreation opportunities with parks and trails. Local governments maintain significant park areas and facilities. According to SCPRT's 1998 Study of Local Government Parks and Recreation Departments in South Carolina, facilities include athletic fields; community centers; swimming pools; playgrounds; tennis courts; basketball courts; picnic shelters; tracks for walking, jogging, and running; trails for walking, biking, hiking, horseback riding, and ATVs; and water trails for canoeing and kayaking. Schools are often utilized by the majority of the local recreation departments to supplement community facilities. Of note, funding for local government facilities, programs, and operations has been increasingly constrained by limits on taxing authority, fragmented jurisdictions, cumbersome annexation procedures, decreasing grant programs, and significant population growth.

Private Recreation Facilities. Private recreation facilities for public use are available in many forms: as baseball/softball fields provided by companies or civic groups; swimming, fishing and picnic areas provided by power companies; and campgrounds, marinas, golf courses, historic sites, and State-leased hunting lands. Many of these facilities charge user fees. There are also other private recreation resources which are not available to the general public, but are open only to members and guests. These include facilities such as golf courses, hunt clubs, marinas, tennis clubs, campgrounds, and various indoor facilities.

Francis Marion National Forest. The Francis Marion National Forest consists of approximately 250,000 acres in Charleston and Berkeley counties, located between the Charleston metropolitan area and the Grand Strand tourism area to the north. The Forest offers a variety of developed and dispersed recreational opportunities. The Buck Hall Recreation Area was rebuilt following Hurricane Hugo and offers electrical hookups, day use, boat launch facilities, and trailhead access to the Palmetto Trail. Visitation is limited by the weather and mosquitoes, making fall, winter, and spring the more popular seasons. The Sewee Visitor and Environment and Education Center is located on U.S. Highway 17 and operated in cooperation with the Cape Romain National Wildlife Refuge. Francis Marion National Forest has approximately 165 miles of trails. Of these, 40 miles are designated for motorcycle and ATV use.

The remaining trail miles are for non-motorized uses such as hiking, backpacking, horseback riding, mountain biking, and canoeing/kayaking. Mountain bikes are allowed on hiking trails, off-road vehicle trails, horse trails, and roads. There are no trails designated for four-wheel drive vehicles. The Forest includes two shooting ranges, several fishing areas, and a number of boat ramps. Most of the Francis Marion National Forest is included in the wildlife management area program for hunting. Four areas have been identified as federally designated wilderness, Wambaw Swamp, Little Wambaw Swamp, Hell Hole Bay, and Wambaw Creek. The Francis Marion is uniquely suited to provide areas for solitude, risk-taking, and self-reliance in natural and more primitive settings.

Collaborative Efforts and Contributions of Recreation

Recreation on the Forest contributes to the physical, mental, and spiritual health of people. According to The Outdoor Recreation Economy report, produced by the Outdoor Industry Association, the outdoor recreation economy generates \$80 billion in national, State and local tax revenues each year. Cities and towns are tapping into the business of outdoor recreation because they recognize that outdoor recreation and open spaces are key ingredients to healthy communities, contribute to a high quality of life, and attract businesses and families (The Outdoor Recreation Economy, Outdoor Industry Association website). Polling data from 2008 published in the 2010 Special Report on Camping identified the leading five motivations for participating in outdoor activities as reported by campers (Special Report on Camping, 2010; Outdoor Foundation and Coleman [<http://www.outdoorfoundation.org>]).

1. It's fun.
2. It's relaxing.
3. I get away from my usual routine.
4. I enjoy discovery and exploration.
5. It's a great way to get exercise.

According to national research of American adults (age 16 and older) featured in (Cordell 2012), motivations may vary based upon the recreational activity, however, "getting away from the demands of everyday life" is a chief motivation for many outdoor activities, including hiking, camping, sightseeing and walking.

In summary, research shows that outdoor recreation contributes to the overall well-being of people, their physical, mental and spiritual health.

Public Policy. There is a shift in public policy surrounding community health and outdoor recreations role. The South Carolina Outdoor Recreation Plan, (SCORP, initial draft priorities, 2013) state one of the priorities as promoting healthy lifestyles and communities: Outdoor recreation, parks, and their associated amenities help keep South Carolinians and their communities fit and healthy. While the connection between health and outdoor recreation seems apparent, public health professionals and outdoor recreation providers have not always coordinated their efforts. South Carolina remains one of the top ten most obese states in the country. In 1996 South Carolina had a combined obesity and overweight rate of 51.4 percent. In 2001 it was 57.4 percent; now, the combined rate is 66.4 percent.

Berkeley County's rich history, southern hospitality, year-round cultural and outdoor recreational opportunities, and overall quality of life make it an especially desirable place to live, learn, work and play.(Berkeley Comp Plan).

Public engagement during the period of February 11, 2013, through April 11, 2013, identified several benefits, preferences, values and suggestions as related to the Francis Marion National Forest. Participants identified that they benefited from the Francis Marion National Forest in many ways, including the following:

- It provides outdoor recreation
- It provides a large area of conservation land for wildlife
- It reflects the culture and heritage of local populations
- It protects the natural environment
- It supports physical and mental well-being
- It provides a place for quiet and solitude
- It provides cleaner air and water
- It provides environmental education opportunities
- It provides food or other necessities
- It provides a place for spiritual renewal
- It provides free access to public lands
- It provides income or supports local economies
- It provides beautiful scenery

Of the benefits identified by all participants, four primary themes emerged:

1. The Forest benefits the public by providing diverse outdoor recreation experiences set within beautiful, natural scenery. In particular, the Forest is uniquely suited to provide trail, wildlife viewing, and hunting opportunities.
2. The Forest benefits the public by providing green space which can enhance quality of life through spiritual renewal, physical exercise, mental “escapes,” and the opportunity for quiet reflection.
3. The Forest benefits the public by providing a large area of land for birds and wildlife to thrive. The varied ecosystems of the Forest support a diversity of birds and wildlife, including both rare, native species and migratory species such as neo-tropical birds.
4. The Forest benefits the public by reflecting the “lowcountry” heritage of South Carolina, as well as, by protecting historical sites of significance and allowing for the continuation of traditional uses.

Clearly, the Francis Marion National Forest is important for many reasons but sense of place, renewal, and recreation are important to many users. The distinctive role and contribution of the Forest to the recreation resource include:

- Public access to the rivers (Santee and Cooper) and Intracoastal waterways
- Opportunity for remoteness and solitude, away from the city and suburban sprawl
- Viewing diverse vegetation, wildlife, and culture sites
- Hunting on public lands

- Hiking, bicycling, motorized and paddling trails
- Cultivating Forest stewardship through environmental education

9.1.2 Recreation Settings

9.1.2.1 Current Conditions

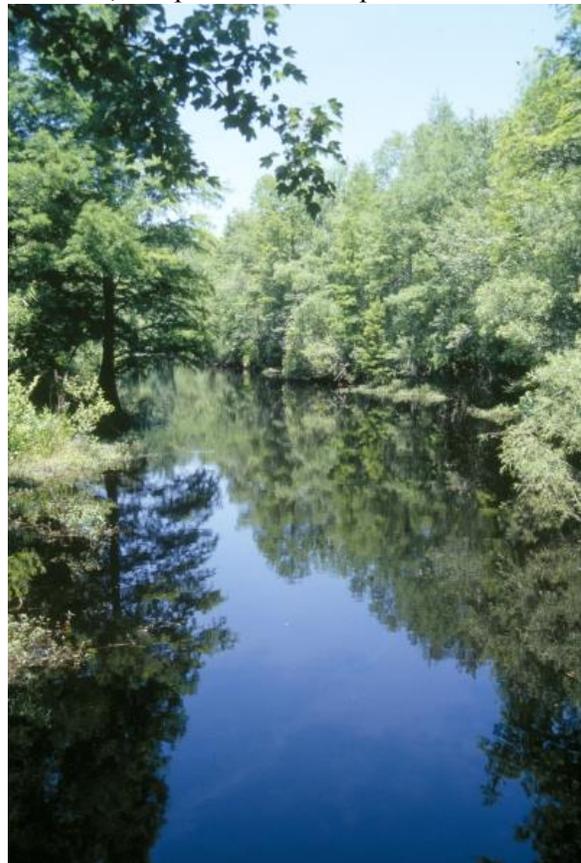
Research has shown that visitors choose a specific setting for each recreation activity to realize a desired set of experiences. The recreation opportunity spectrum (ROS) is a planning tool which serves as a framework for planning and managing recreation settings and opportunities. ROS is the relationships between settings and experiences and is the mechanism by which the Forest Service manages recreation on national forests. The ROS inventory identifies the kinds or classes of recreation opportunities of an area as a function of its physical, social, and managerial setting characteristics. The inventory helps identify what is actually happening on the land. By zoning the Forest into different recreation settings, the Agency can maintain a sustainable set of recreation settings and appropriate opportunities within those settings. Current and future visitors can select where they recreate based on what they want to do, what equipment they want to bring, and the type of experience they want to have.

There are six major classes in the ROS used by the Forest Service: urban, rural, roaded natural, semi-primitive non-motorized, semi-primitive motorized, and primitive. The spectrum can be further divided into subclasses if the need arises.

The following is a general description of settings offered on national forest land:

Primitive is the most remote, undeveloped recreation setting on the Forest. They are areas away from roads, people, and development. These settings are essentially unmodified natural environment of a size or location that provides the opportunity for isolation from sights and sounds of people. Generally, the areas are located at least 3 miles from any open road and are 5,000 acres in size or larger. Motorized use within the area is normally not permitted. The Francis Marion National Forest has four wilderness areas that are classified as primitive. Wambaw Creek Wilderness allows motorboat use based on an existing use pattern before the wilderness was designated.

Semi-primitive non-motorized areas are less remote and can be as small as 2,500 acres and only a half-mile or more from any open road within the area. These settings accommodate dispersed non-motorized recreation.



Wambaw Creek Wilderness, a primitive ROS classification

Semi-primitive motorized areas are less remote and can be as small as 2,500 acres and only a half-mile or greater from any open road. These settings accommodate dispersed motorized recreation.

Roaded natural settings are located within a half-mile of a road and usually provide higher levels of development such as campgrounds, picnic areas, and river access points.

Rural settings represent the most developed sites and modified natural settings on the Forest.

Table 9-1. ROS classes on the Francis Marion National Forest

ROS Class	Acres	Percent of Forest
Primitive	13,549	5%
Semi-Primitive Non-Motorized	0	0%
Semi-Primitive Motorized	21,147	8%
Roaded Natural	126,219	50%
Rural	85,181	34%
Santee Experimental Forest (reserved)	6,076	3%

The ROS for the Francis Marion National Forest was inventoried in 1996. Monitoring of projects since the adoption of the revised Forest plan revealed that the Forest acres generally met the ROS classes. However, there are some data gaps, including land acquisition since the 1996 plan needs to be inventoried. Also, an inventory update is needed to identify the appropriate ROS class for the Wambaw Creek Wilderness which allows for motorized boating since this is inconsistent with the current primitive setting objectives.

Also, only 13 percent of the Forest is managed as primitive or semi-primitive, despite its unique position to provide for these settings.

Preferences

The National Visitor Use Monitoring (NVUM) program provides reliable information about amount of recreation visitors to national forest system managed lands at the national, regional, and forest levels. However, NVUM does not capture the activities people would like to have offered (their preferences).

The South Carolina Parks Recreation and Tourism as part of its continuing efforts to meet the recreational needs of the South Carolina public, the South Carolina Department of Parks, Recreation, and Tourism periodically conducts surveys of the general public in order to determine the extent to which the State’s residents participate in a variety of recreational activities as well as their preferences for such activities. Data for the most recent survey were collected between September 13 and November 18, 2005. The report provides a summary of the major findings from this survey. There are variations of preferences between age, race, gender and income made significant differences. Also, season does have a significant effect on people’s preferences. This report focuses on activities in a variety of settings, not just settings. Results of the latest survey on preferences in South Carolina can be found online at <http://www.statelibrary.sc.gov/scedocs>.

9.1.3 Recreation Opportunities: Developed²

The Francis Marion is a unique recreation destination with many distinct settings offering a diversity of quality recreation opportunities.

9.1.3.1 Current Conditions

Recreation and Interpretive Sites

Table 9-2 lists recreation sites on the Forest.

Table 9-2. Recreation sites on the Forest

Recreation Areas	Facilities
Buckhall Recreation Area	Camping with electric hookups, picnic, boat ramp, fishing pier, trailhead
Elmwood Campground	Camping, vault toilet, game check station
Honey Hill Campground	Camping, vault toilet
Halfway Creek Campground	Camping
Awendaw Canoe Launch	Kayak and canoe launch, information kiosk, trailhead for Palmetto Trail
Twin Ponds Rifle Range	Covered shooting benches
Boggy Head Rifle Range	Covered shooting benches
Huger Recreation Area	Picnic, vault toilet, boat ramp
Interpretative Areas	Facilities
Sewee Visitor and Environmental Education Center	Visitor Center, interpretive programming loop trail, fishing
Sewee Shell Ring	Boardwalks, interpretive information
Battery Warren	Trail, interpretive information
I'on Swamp Interpretive	Trail, interpretive information

Buckhall. Buckhall is the most developed campground on the Francis Marion National Forest, with 14 RV sites with electrical hookups and 5 tent sites, shower houses, a boat launch into the Intracoastal Waterway and Cape Romain National Wildlife Refuge, trailhead for the Awendaw Passage of the Palmetto Trail, picnic area and a fishing pier. The area is open year-round. Camping fees and day-use fees are charged and reservations are made through the national reservation system.



Buckhall Boat Ramp

² The term “developed” recreation opportunities typically means that the use occurs within or near a facility, for instance picnicking at a picnic shelter or target shooting at a range. Often these facilities are constructed to help users enjoy the activity and to reduce impacts to the environment. “Dispersed” recreation typically means the activity or use occurs without much need for a constructed facility to enjoy the activity, such as hunting or hiking.

Occupancy for the camping is shown in Table 9-2. The mild winters and extremely hot and humid summer encourage higher winter occupancy and slightly lower summer occupancy.

Buckhalls' unique position on the Intercostal Waterway makes it a popular recreation site for a day trip or multiday. The boat launch is especially during the popular shrimp-baiting season in late summer/early fall.

The site was rebuilt after the massive devastation of Hurricane Hugo; however, it is the most costly recreation facility to maintain and operate.

Honey Hill, Elmwood, and Halfway Creek. Honey Hill Campground and Elmwood Campground accommodate more primitive camping across the Forest, with vault toilets and primitive settings. Elmwood cooperates with the SCDNR who provide staffing for the check station.

Awendaw Canoe Launch. Honey Hill Campground and Elmwood Campground accommodate more primitive camping across the Forest, with vault toilets and primitive settings. Elmwood is a popular camp during deer and turkey hunts on the Waterhorn Hunt Unit and it also serves as a South Carolina Department of Natural Resources game check station during big-game hunting season.

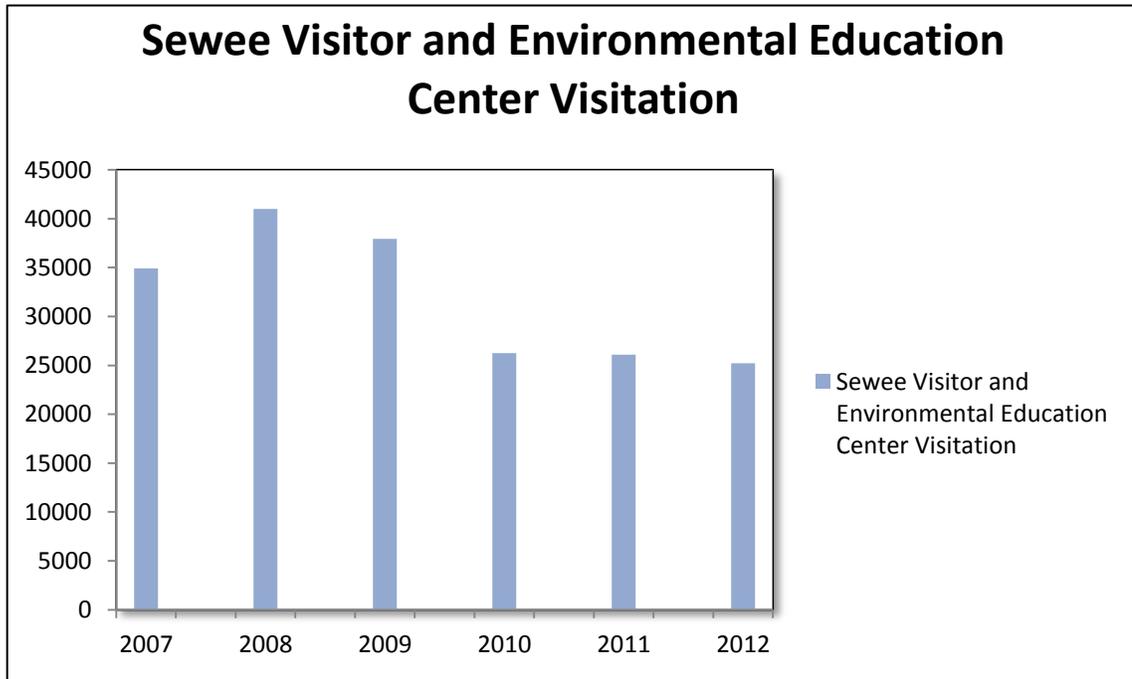
Rifle Ranges. There are two rifle ranges on the Forest, Twin Ponds and Boggy Head. Both sites provide covered shooting benches with a 100-yard backstop. They are very popular developed sites with year round use. There are no fees charged at these sites.

Sewee Visitor and Environmental Education Center. Sewee Visitor and Environmental Education Center is jointly operated by the Cape Romain National Wildlife Refuge and the Francis Marion and Sumter National Forests and in partnership with the South Eastern Wildlife and Environmental Education Association. The center provides visitor information and environmental education focusing on the natural and cultural history of the nearly 300,000 acres of public lands that comprise the national forest and wildlife refuge. The center features an auditorium, classrooms with a wet lab, a visitor orientation area, and an exhibit hall and gift shop. Local school districts often use the center for off-site environmental education. The site offers freshwater ponds for fishing and education, a mile-long loop trail, a butterfly garden, a picnic shelter, and a live red wolf enclosure. There is no fee charged at this site.

Visitation to the Sewee Visitor Center has declined since 2008. Use for the visitor center is down due to downturn in the economy, fewer travelers, and fewer school trips. Environmental education is a mainstay at the center, and school districts have had to reduce trips to save transportation costs. However, the visitor center offers numerous community opportunities that foster greater connection between people and nature. Its location on U.S.



Sewee Visitor and Environmental Education Center



Highway 17 offers visitors a prime opportunity to find out about the National Forest and Cape Romain.

Figure 9-9. Sewee Visitor Center visitation

Source: USDI Fish and Wildlife Service (2013)

Sewee Shell Ring. This site is one of the oldest pre-historic, man-made features in South Carolina. The 4,000 year old Sewee Shell Ring was built by American Indians of the Thom’s Creek culture. The ring measures about 225 feet across and 10 feet high at its highest point. Most archeologists today believe the shell ring functioned both as a seasonal home for the local prehistoric peoples and as a location for ritual feasting in religious ceremonies. A loop trail and boardwalk allow a close up look of the site.

Battery Warren. This civil war earthen fort meant to block Union forces from moving up the Santee River is one of the best preserved coastal fortifications still in existence. An interpretive trail takes visitors through a mature hardwood forest that leads to a high bluff and viewing platform. Embankments of the old fort are still visible today.

I’on Swamp. This trail is a fascinating walk through a wetland world. This self-guided interpretive trail traverses embankments built by humans dating back by to the 1700s. The impoundments and ditches were built for rice production during the lucrative rice era of the Lowcountry. Visitors will see an array of wildlife and the occasional alligator in the pools that border the trail.



Sewee Shell Ring Boardwalk

Distribution of Sites and Seasonality and Climate Change

Recreation sites and interpretive sites are located in the interior of the 250,000-acre Forest and several within a few miles of the South Carolina Highway 17 corridor, one of the main routes from Florida to states northward. Some sites are located directly on the Intracoastal Waterway and access to Cape Romain Wildlife Refuge.

Weather plays a role on the recreation use on the Forest. The mild winters on the Atlantic Coast of South Carolina help make the Forest a year round destination. The heat and humidity of the summer months can limit some outdoor recreation uses. Visitation by tourists to the Charleston area is significant and spring is typically the favored season. Climate is an important consideration for tourists' choice of destination (Lise and Tol 2002). Weather and climate are important factors that causes the seasonality of tourism, as does the school holiday schedule. Climate change is likely to change tourism seasonal pattern in the long run.

Climate change may affect recreation on the Francis Marion National Forest in the following ways:

- Changes to local ecosystems (vegetation changes due to drought, disease, fire, storms (Hugo as an example), decrease in cool water fish affecting freshwater fishing, increases in mammal size may lead to better hunting, more ticks and mosquitoes (both longer season and larger populations), low river flows affecting canoe/kayak trips, sea-level rise affecting coastal resources, including the Sewee Shell Ring, increased heavy precipitation affecting erosion rates for the Battery Warren earthen fort.
- Changes to local weather pattern (more extreme weather including more intense hurricanes and storms, higher winter temperature, more extreme heat days in summer, higher humidity affecting visitor comfort).
- Changes to human use and activity patterns (such as shifting seasonality of tourism with an increase in winter visitation and a decrease in summer visitation, competing destinations as climate regimes shift, and reduced access to destinations after disturbance [fire, hurricanes]).

Services

There are multiple outfitter guide, special use, conservation education, environmental education and volunteer programs on the Forest.

Outfitter Guide and Special Events Uses. Outfitter guides on the Forest provide services to the public to transport, guide or otherwise facilitate the recreation experience, an example would be a kayak tour of Forest streams. Special uses are typically one time or limited events that are held on Forest. These can be organized runs or trails uses, any number of limited use event.

Recreation use of the Forest provided through special use permit has increased, 425 percent in 3 years. Demand for hiking/running events has increased most significantly. The Forest has is becoming a popular place to have festivals and races which offer multiple benefits from increase business and economies and strengthen communities' connections to the Forest. There are impacts to environmental conditions without setting carrying capacities or limits for these type of events.

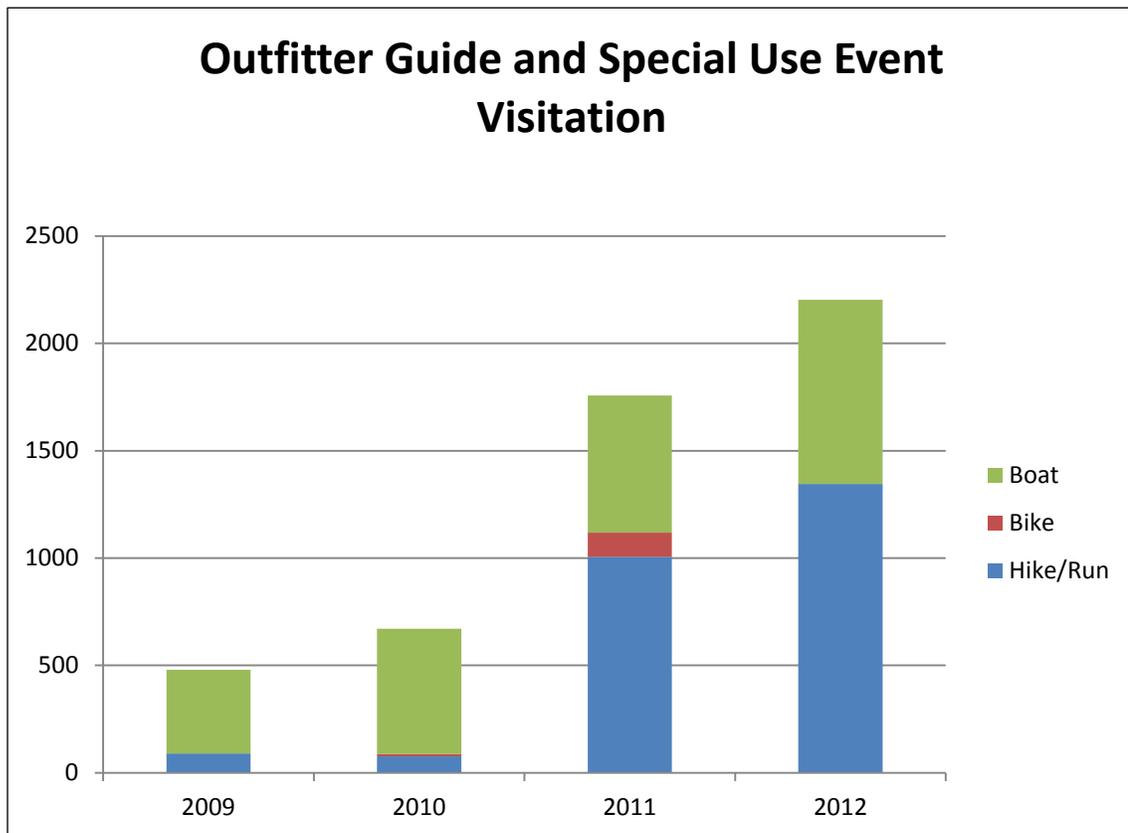


Figure 9-10. Outfitter guide and special use event visitation

Volunteers and Partners. The Forest collaborates with many recreation-focused volunteer organizations and partners. Volunteer programs are events or ongoing programs where people lend a hand and work on various projects such as picking up trash and planting native grasses. The Forest recognizes that the continued increase in demand for outdoor recreation experiences coming from South Carolina's Grand Strand to the north (including Myrtle Beach) and historic Charleston from the south, as well as both rapidly growing areas being connected to the Forest by the Highway 17 corridor, offer a great opportunity to connect the public with the Forest through volunteerism. In fiscal year 2010 volunteers contributed 10,591 hours, valued at \$214,468 in today's dollars.

The Sewee Visitor and Environmental Education Center annually hosts four fishing rodeos. In partnership with the Cape Romain National Wildlife Refuge and the SEWEE Association since 2009, the Sewee Visitor Center has received more than 11,000 volunteer hours staffing the visitor information desk and delivered more than 10,500 volunteer hours of environmental education programs. The environmental education programs include the earth stewards program that involves more than 4,000 students a year on field trips, in lab experiments, and in classroom

demonstrations focusing on the natural habitats of the Francis Marion National Forest and Cape Romain National Wildlife Refuge.

For the past several years, the Forest has sponsored six Forestwide clean-up events that involved almost 1,000 volunteers who removed 150 tons of trash from the Forest while contributing nearly 5,000 hours of volunteer labor valued at around \$100,000. Four of these cleanups were in partnership with Palmetto Pride.



Boys Scouts help plant pollinator gardens

A group of dedicated range users helped rebuild both shooting shelters with benches and information kiosks. Today these heavily used rifle ranges remain clean and maintained thanks to the efforts of volunteers and their organized events.

Many of the volunteer activities on the Francis Marion involve getting children and young adults into the woods and fostering a sense of “giving back.” Since 2009 the Forest has sponsored 16 volunteer projects led by the Boy Scouts of America. A cub scout troop showed up 80-strong to one such event and converted two large parking islands into pollinator gardens at the Sewee Visitor Center.

Since 2009, volunteers have worked on several low-country trails including the Swamp Fox Passage of the Palmetto Trail and the Jericho Horse Trail (includes trail bridge and boardwalk replacement). They have constructed and repaired 20 trail bridges on four different trails, totaling 1,927 linear feet. This includes replacement of 800 linear feet of wooden boardwalk at the Sewee Visitor Center with recycled plastic “wood,” and building a 300-foot boardwalk at Buck Hall Recreation Area on the Intracoastal Waterway to connect the Awendaw Passage of the Palmetto Trail to the campground.

The Coastal Off-road Riders Association partnered with the Forest Service on the Wambaw Cycle Trail providing tremendous energy and labor toward maintaining the trail system. They recently constructed a beginner’s loop to provide areas for beginners to learn the sport.

Conservation Education and Environmental Stewardship. The Francis Marion partners with the U.S. Fish and Wildlife Service to operate and maintain the Sewee Visitor and Environmental Education Center. The South Eastern Wildlife and Environment Education Association (Sewee Association) also staff the visitor center and provide programming. There are numerous programs and activities at the visitor center year-round. Visitors may also obtain information via kiosks at multiple developed sites and interpretive sites across the Forest. The current trend with declining Federal budget allocation for recreation on the Forest is expected to continue into the future. With this trend, partnerships and partner contributions will be even more crucial for sustaining interpretive services, conservation education, volunteer work and citizen stewardship, and special events to connect people with nature on the Francis Marion National Forest.

Use on Francis Marion National Forest

The National Visitor Use Monitoring (NVUM) program provides reliable information about recreation visitors to national forest system managed lands at the national, regional, and forest level. Information about the quantity and quality of recreation visits is required for national

forest plans, Executive Order 12862 (Setting Customer Service Standards), and implementation of the national recreation agenda. To improve public service, the Agency’s strategic and annual performance plans require measuring trends in user satisfaction and use levels.

NVUM has standardized measures of visitor use to ensure that all national forest visitor measures are comparable. These definitions are basically the same as established by the Forest Service in the 1970s. Visitors must pursue a recreation activity physically located “on” Forest Service-managed land in order to be counted. Understanding the definitions of the variables used in the sample design and statistical analysis is important in interpreting the results.

National forest visit is the entry of one person upon a national forest to participate in recreation activities for an unspecified period of time. A national forest visit can be composed of multiple site visits. The visit ends when the person leaves the national forest to spend the night somewhere else.

Site visit is the entry of one person onto a national forest site or area to participate in recreation activities for an unspecified period of time. The site visit ends when the person leaves the site or area for the last time on that day.

A confidence interval is a range of values that is likely to include an unknown population value, where the range is calculated from a given set of sample data. Confidence intervals are always accompanied by a confidence level, which tells the degree of certainty that the value lies in the interval. Used together these two terms define the reliability of the estimate, by defining the range of values that are needed to reach the given confidence level. For example, the 2008 national visitation estimate is 175.6 million visits, with a 90 percent confidence interval of 3.2 percent. In other words, given the NVUM data, our best estimate is 175.6 million visits, and given the underlying data, we are 90 percent certain that the true number is between 170.0 million and 181.2 million.

The information presented here is valid and applicable at the forest, regional, and national level. It is not designed to be accurate at the district or site level. Therefore the results that follow are for both the Francis Marion and Sumter National Forest combined.

Descriptions of Forest recreational visits were developed based upon the characteristics of interviewed visitors (respondents) and expanded to the national forest visitor population.

Table 9-3. Visitation of the Francis Marion and Sumter National Forest

Visit Type	Visits (thousands)	90% confidence interval width (%)¹
Total Estimated Site Visits	1,363.8	26.5
Developed Day Use Sites	255.6	23.3
Developed Overnight Use Site	36.6	32.5
General Forest Areas	1,057.5	33.7
Wilderness	11.4	34.3
Special Events and Organizational Camp Use ²	2.6	0.0
Total Estimated National Forest Visits	1,283.7	27.3

¹ This value defines the upper and lower bounds of the visitation estimate at the 90% confidence level, for example if the visitation estimate is 100 +/-5%, one would say “at the 90% confidence level visitation is between 95 and 105 visits.”

² Special events and organizational camp use are not included in the site visit estimate, only in the national forest visits estimate. Forests reported the total number of participants and observers so this number is not estimated; it is treated as 100% accurate.

Source: National Visitor Use Monitoring Report, 2008.

Demographic results show that 76 percent of visits are made by males. Black/African Americans (4.3 percent) are the most common racial or ethnic minority. There are relatively few older people in the visiting population. Only about 2 percent of visits are made by people aged 70 and up. Just over 15 percent of the visits are made by people in their twenties, and about the same percent are made by people in their forties. Over 23 percent of visits are made by children under the age of 16. This Forest serves a very local client base. Nearly 47 percent of visits come from people who live within 25 miles of the Forest; another 23 percent come from distances between 25 and 50 miles.

Over 80 percent of the visits to this Forest are people on day trips away from home. Just over 16 percent of the visits spend the night while away from their home. Of those, over 13 percent spend the night within 50 miles of the Forest. Most that spend the night in the area do so in private campgrounds not on the Forest or a private home of a friend or relative. About half of the visiting parties spend \$45 or less per party per visit. Almost one-third of the visiting population comes from households in the \$25,000 to \$49,999 range; about 22 percent come from households in the \$50,000 to \$74,999 range.

An important element of outdoor recreation program delivery is evaluating customer satisfaction with the recreation setting, facilities, and services provided. Satisfaction information helps managers decide where to invest in resources and to allocate resources more efficiently toward improving customer satisfaction. Satisfaction is a core piece of data for national- and Forest-level performance measures.

The overall satisfaction results showed that almost 79 percent of the people who visited were very satisfied with the overall quality of their recreation experience. Another 16 percent were somewhat satisfied. Less than 1 percent expressed any level of dissatisfaction. The composite index results were also quite good. Developed sites and wilderness scores showed that developed facilities, access, and perception of safety all were above the 85 percent national satisfaction target. Access and perception of safety rated higher than 85 percent for undeveloped areas. The percent meets expectation scores were also quite good. Developed sites and wilderness both showed scores higher than 85 percent for developed facilities, access and perception of safety. Access rated higher than 85 percent for undeveloped areas. Importance-performance ratings were also good although there were a couple items that showed a need for attention for overnight use developed sites (availability of recreation information and adequacy of signage), general forest area (restroom cleanliness) and wilderness (adequacy of signage). The majority of the visiting population is very satisfied with road condition and adequacy of signage Forestwide. Over three-quarters of the visiting population also feel that road condition and adequacy of signage is very important.

Forest recreational visitors, while primarily local, do not reflect the racial nor gender composition of the state or counties in which it lies.

Racial and Ethnic Composition. In South Carolina, African Americans account for 28 percent of the population, 7 percent more than the national average according to the U.S. Census Bureau. The area surrounding the Francis Marion National Forest has a large African American population, with African Americans making up 25 percent and 30 percent in Berkeley and Charleston Counties, respectively (Eichman and Dobb 2013). While 25 to 30 percent of local residents are African American, the 2008 National Visitor Use Monitoring (NVUM) Report for

the Francis Marion and Sumter National Forests reported that only 4.3 percent of Forest visitors identified themselves as Black or African American, with a disproportionate number of users being White (USDA Forest Service 2008).

Data collected for the 2008 State Comprehensive Outdoor Recreation Plan (SCORP) validates that participation levels for a number of recreation activities may differ among racial and ethnic populations. As the SCORP notes, some of the largest and most consistent racial differences involve water-related activities, with a significantly higher percentage of whites than blacks participating. Differences are particularly evident for activities such as motorboating; swimming in a lake or river; going to the beach to swim or sunbathe; freshwater fishing; pool swimming; jetskiing; waterskiing; saltwater fishing; canoeing, kayaking or rafting; and shellfishing or shrimping.

The activity for which black participation was higher than that of whites and for which the difference between the races was greatest was playing basketball. A higher percentage of blacks than whites also reported playing football, volleyball, and softball; bicycling; jogging or running; and working out with weights or exercise machines. Blacks were also more likely than whites to have taken a drive for pleasure in the prior one-year period (SCORP; South Carolina Department of Parks, Recreation, and Tourism 2008). Additionally, according to the 2011 Outdoor Recreation Participation Report, most popular outdoor activities for African Americans include:

1. Running/jogging and trail running, 17 percent
2. Freshwater, saltwater and flyfishing, 11 percent
3. Road biking, mountain biking and BMX, 11 percent
4. Car, backyard, and RV camping, 5 percent
5. Hiking, 3 percent

African Americans point to lack of gear as the top reason for not participating in outdoor recreation (Outdoor Foundation 2011).

According to the 2008 National Visitor Use Monitoring (NVUM) Report for the Francis Marion and Sumter National Forests Report at least 23 percent of Forest visitors participate in (1) relaxing; (2) viewing natural features; (3) viewing wildlife, birds and fish; (4) other non-motorized activities (swim, etc.); (5) hiking; and (6) hunting. None of these reflect those activities in which African Americans are most likely to participate according to 2008 statewide SCORP findings.

Gender Composition. In 2011 women comprised 51.3 percent of the South Carolina population according to the U.S. Census Bureau [<http://www.census.gov/>]. In the immediate counties of Berkeley and Charleston, women represent 50.0 percent and 51.5 percent of the population, respectively. While approximately half of local residents are women, the 2008 National Visitor Use Monitoring (NVUM) Report for the Francis Marion and Sumter National Forests reported that only 24 percent of Forest visitors are women. This is below the finding made by the Outdoor Foundation in the 2011 Outdoor Recreation Participation Report which states that nationally, 44 percent of participants in outdoor activities are women (Francis Marion and Sumter National Forest 2008 [National Visitor Use Monitoring Report]).

Significant differences were evident in the participation patterns of men and women according to the results of the 2008 State Comprehensive Outdoor Recreation Plan (SCORP). The types of

activities in which men were more likely than women to participate include traditional outdoor sports such as fresh and saltwater fishing, hunting, shellfishing and shrimping, other shooting sports, and hunting dog field trials. Men were also much more likely than women to have been camping, motorboating, waterskiing, jetskiing, and lake or river swimming in a 12-month period. In addition, a higher percentage of men engaged in a number of “individual” recreational activities, such as jogging or running, off-road vehicle riding, and rock climbing or rappelling.

Women are generally more likely to engage in more passive leisure-time activities, such as visiting a zoo, museum, or historical site; picnicking; bird watching; or walking for pleasure or on a guided nature trail. More physically active recreational activities in which a higher percentage of women than men participated include horseback riding; and driving for pleasure.

Local Versus Nonlocal Visitors. There are significant differences between local and nonlocal preferences for recreation settings, opportunities, facilities and services found on the Forest.

NVUM data shows that approximately 70 percent of participants travel less than 50 miles from their residence to visit the Francis Marion National Forest, indicating most users are from surrounding local communities. Communities within Berkeley, Charleston, Clarendon, Dorchester, Georgetown, Horry, Orangeburg, and Williamsburg counties were recognized as having the strongest social ties to the Francis Marion. Additionally, the communities of Awendaw, Huger, Jamestown and McClellanville are found interspersed within the Forest and, therefore, have a very strong physical, social and economic connection to it.

According to the findings of public engagement efforts from fall 2012 through spring 2013, in which nearly all participants resided in the surrounding eight counties, four primary themes regarding Forest benefits emerged:

1. The Forest benefits the public by providing diverse outdoor recreation experiences set within beautiful, natural scenery. In particular, the Forest is uniquely suited to provide trail, wildlife viewing, and hunting opportunities.
2. The Forest benefits the public by providing green space which can enhance quality of life through spiritual renewal, physical exercise, mental “escapes,” and the opportunity for quiet reflection.
3. The Forest benefits the public by providing a large area of land for birds and wildlife to thrive. The varied ecosystems of the Forest support a diversity of birds and wildlife, including both rare, native species and migratory species such as neo-tropical birds.
4. The Forest benefits the public by reflecting the “lowcountry” heritage of South Carolina, as well as, by protecting historical sites of significance and allowing for the continuation of traditional uses.

These four themes indicate local communities have high esteem for the Forests’ natural and cultural offerings, value the Forests’ unique ability to provide a sense of solitude, and prefer low-development, self-guided recreation opportunities.

At the Lowcountry Regional Workshop held on October 30, 2007 at Wannamaker County Park in North Charleston, Charleston County, local participants identified the “need to balance recreational activity popularity with environmental impacts and use conflicts that arise over concerns such as safety and noise,” as a top issue of concern to bring forward to the State SCORP.

Conservation Areas: “Where Not to Grow”: Citizens of Berkeley County have expressed their concerns over the loss of agricultural land in historic communities within rural Berkeley County, such as Lebanon and Honey Hill. While these communities have enjoyed relative isolation, unprecedented growth is beginning to threaten this isolation. Residents desire to conserve certain areas such as these throughout Berkeley County and consideration should be given as to how to preserve them through resource management corridors or the clustering of new development in such a way that these types of communities are not adversely impacted (Berkeley County 2010).

Community Visioning Preferences: Based on small group discussion notes, community facilities constitute the most current, relevant topic to the largest number of Berkeley County citizens in attendance. The average participant also could most easily incorporate a community facility into his civic vision.

Small-scale, relatively inexpensive community facilities fared the best in the public workshops. Access to the water was also a popular choice.

Its proximity to the city of Charleston also makes the Francis Marion a destination by visiting tourists and tourism to the State of South Carolina is on the rise. According to the U.S. Travel Association, a gross total of \$16.5 billion was spent in South Carolina on travel or on behalf of tourism in 2011, with 53.3 percent of the total being spent by out-of-state travelers. Overall, South Carolina gross tourism spending increased 9.7 percent in 2011 and has been increasing steadily since 1990 (U.S. Travel Association 2012). About 66 percent of domestic leisure trips from out-of-state come from the following five states: North Carolina, Georgia, Virginia, Ohio and Pennsylvania according to the October 2009 report titled, “Domestic Leisure Travel to South Carolina from Out-of-State” (South Carolina Department of Parks, Recreation, and Tourism 2009). According to the same report, 18 percent of the trips have the primary purpose to participate in outdoor recreation.

From a 2001 Visitor Intercept Survey conducted by the Office of Tourism Analysis, College of Charleston, visitors to the city tend to be middle-aged (45 to 69), college-educated with an upper-middle level income. About 69 percent of survey participants sought a visitor center to inquire about opportunities within the Charleston area. A majority of participants stated that technology, both mobile technology and social media, influences their behavior and choices (Pan 2011). This is significant because according to research presented in, *Taking a Benefits-Based Approach to Understanding, Planning, and Managing Nature-Based Recreation in Florida*, “there are significant differences between locals and non-locals’ preferences for benefits (i.e., motivations) and recreation facilities and services.” The research states that, “Non-local visitors placed a high priority on exploration and education. Local visitors were looking for stress relief, sense of independence, skill building, and a feeling of achievement” (Taylor and Clark undated).

Compatibility of Uses and Unmanaged/Illegal Uses. Compatibility of recreation use on the Francis Marion is wide ranging, from fully compatible uses to uses that are not as compatible. Conflicts between users are a part of managing public land. These conflicts can increase as the number of growing recreation activities increase and new recreation technologies (such as geocaching) are developed. Public lands continue to face pressure from an increasing number of different user groups. During collaboration and public involvement, some conflicts between user groups were noted. Not all existing recreation uses and activities on the Forest are compatible.

OHV use is only allowed on designated trails on the Francis Marion National Forest. However, off-trail use happens on the Forest despite efforts to stop it. Impacts to cultural and natural resources are caused by this illegal use, especially within the areas around the current 36-mile

trail system as well as the power and transmission line rights-of way. Since 1996, according to Forest Service monitoring reports, multiple trail improvement projects were accomplished to mitigate impacts to cultural and natural resources, as well as improve the trail experience for riders. Areas such as wetlands and vernal ponds have been fenced to protect those fragile resources, but many are not protected and vulnerable to illegal off-trail use. Signage along the trail was improved. Maintenance of the trail is ongoing. As the trail conditions and maintenance improve, illegal off-trail use is decreasing (but is still a problem). There are unmanaged or illegal activities or uses, such as illegal off-trail OHV use, that impacts natural or cultural resources.

9.1.3.2 Sustainability

The 2012 planning rule directs that Forest plans must provide for sustainable recreation. The rule defines this as “The set of recreation settings and opportunities on the National Forest System that is ecologically, economically, and socially sustainable for present and future generations”.

Forest Service budgets are decreasing and fewer resources are available to maintain existing recreational facilities or to develop new ones. The backlog maintenance for recreation infrastructure is estimated at \$450,000 and exceeds current funding capabilities.

There has been a decrease in Agency appropriation funding for recreation over time and that trend will continue for the foreseeable future. At the same time, Forest Service facilities remain relatively unchanged in number. The backlog of and aging recreation building infrastructure continues to age and there is substantial deferred maintenance backlog. Although the Francis Marion has and pursues strategic partnerships, this leverage has never been at a scale to offset the operation and maintenance, and capital-investment needs. Contributions of partners and volunteers in promoting or maintaining recreation on the National Forest will become even more crucial in the future.

For a full discussion on the ecological sustainability of specific areas within the Forest see section 1.7 “Current Contribution to Ecological, Social, and Economic Sustainability, and Multiple Uses. For a discussion on social sustainability see section 6 “Social and Economic Assessment.”

Preferences

The National Visitor Use Monitoring (NVUM) program provides reliable information about recreation visitors to national forest system managed lands at the national, regional, and forest level. Information about the quantity and quality of recreation visits is required for national forest plans. However, NVUM does not capture the activities what people would like to have offered.

The South Carolina Parks Recreation and Tourism as part of its continuing efforts to meet the recreational needs of the South Carolina public, the South Carolina Department of Parks, Recreation and Tourism periodically conducts surveys of the general public in order to determine the extent to which the State’s residents participate in a variety of recreational activities as well as their preferences for such activities. Data for the most recent survey were collected between September 13 and November 18, 2005. The report provides a summary of the major findings from this survey (Table 9-4). There is large variation from season to season except for playing.

Table 9-4. Preferences of South Carolinians for certain outdoor recreation activities

Activity	Spring or Summer		Fall or Winter	
	%	Rank	%	Rank
Playing ball (softball, baseball, basketball, volleyball, football, or soccer)	21	1	20.7	2
Walking for pleasure	14.6	2	23.3	1
Swimming	11.1	3	1.2	13
Fishing	10	4	4.5	6
Golf	5.7	5	5.3	4
Camping	4.3	6	3.7	7
Motorboating	3.8	7	0.8	17
Gardening	2.9	8	1.4	12
Bicycling	2.8	9	3.5	8
Hiking	2.3	10	4.9	5
Tennis	2.3	11	1.7	11
Jogging/running	1.6	12	2.3	9
Hunting	1.3	13	6.8	3
Picnicking	1.3	14	0.5	20
Visiting a park	1.8	15	0.9	15
Motorcycling	1.2	16	0.2	22
Horseback riding	0.8	17	1.1	14
Water sports	0.8	18	0	23
Waterskiing/jetskiing	0.6	19	0	24
Kayaking	0.6	20	0.3	21
Going to the mountains	0.1	21	0.9	16
Exercising	0.1	22	0.8	18
Snow skiing	0	23	2.1	10
Ice skating	0	24	0.7	19
Others ¹	9		12.6	

¹ Total of all other activities mentioned, none of which was named by more than 0.5% of those interviewed as either their preferred spring or summer, or fall or winter, preferred outdoor recreational activity.

Source: South Carolina Recreation Participation and Preference Study, 2005.

9.1.3.3 Current Management Direction

The Revised Land and Resource Management Plan incorporates Forestwide goals and objectives, desired conditions, and standards for recreation. A Forestwide goal states:

Provide for high quality recreational use. People use the Forest for a number of reasons. Our goals are to 1) develop, maintain and enhance a broad spectrum of recreational opportunities and interpretive services for Forest visitors to know and experience the Forest; 2) provide for safe, quality recreational experiences; and 3) provide barrier-free recreational facilities making the Forest accessible to as many people as possible.

Providing a “range”, or “diversity”, of recreational opportunities is emphasized throughout the 1996 Forest plan as a Forest goal, desired future condition, and Forest standard. Conversely, the plan does not identify the distinctive role of the Forest to provide recreation or where management emphasis should be placed to achieve a sustainable recreation program.

Desired conditions for recreation on the Forest are:

- The Forest is a popular destination for a wide range of recreational visitors. There are more opportunities to enjoy both dispersed and developed recreational activities. Of the recreational activities offered on the Forest, about half are developed activities and half are dispersed activities.
- The quality of facilities is higher, and the user can expect to pay more fees for using the Forest. There are more miles and variety of trails including OHV, bicycle, canoe, hiking, and horse. Off-highway vehicles travel only on designated trails. Trails are in better condition and allow for shorter routes by including loops in their design. There are several new developed recreational facilities, including boat ramps, horse camps, campgrounds, and canoe access areas. Visitors enjoy a wide diversity of recreational experiences. The physically challenged enjoy more opportunities because of the barrier-free facilities. The Forest is a primary place for the public to enjoy hunting and fishing. Nonconsumptive use has also increased, and many people come here to bird watch, photograph, and simply enjoy nature. There is a greater emphasis in areas offering semi-primitive recreational opportunities.
- The interpretive program is much more developed. There are increased interest and understanding of the natural environment and the coastal region of South Carolina by both visitors and residents. The Sewee Environmental Education and Visitor Center provides quality environmental education and interpretive opportunities.

Several Forestwide objectives include:

- Increase the acres greater than 0.5 mile from an open road to 24,000 acres,
- Manage recreational experiences, facilities, and activities to meet the adopted recreation opportunity spectrum,
- Increase the developed recreational facilities capacity to 2,200 people-at-one-time (PAOTs) within the next 10 years, and to 2,600 PAOTs in the long term,
- Increase the trail system to 160 miles within the next 10 years, and
- Manage visual resources to meet the adopted visual quality objective.

Based on Forest monitoring over the last 10 years, some objectives have been met. To date, the Forest provides 174 miles of Forest Service-managed trail opportunities. About 108 percent of the objective has been met of increasing the trail system to 160 miles.

To date, the Forest provides recreational facilities with a total designed capacity of 1,414 PAOTs. About 64 percent of the short-term PAOT objective and 54 percent of the long-term objective has been met.

Generally recreational opportunity spectrum (ROS) and visual quality objectives were met, according to monitoring reports. However, there is a Forest objective to, “Manage recreation experiences, facilities and activities to meet the adopted Recreation Opportunity Spectrum (ROS).” In two instances, recreation sites are not being managed in compatibility to the ROS

objectives of the larger area: (1) the Wambaw and Still boat launches are being managed as development level 3 facilities within a primitive recreational setting (Wambaw Creek Wilderness); and (2) the Wambaw Cycle Trail is less than 0.2 mile from a primitive recreational setting and contributes noise pollution to the Wambaw Swamp Wilderness.

There are Forestwide standards that apply to developed and dispersed recreation, visual quality and ROS including:

- OHV use is restricted to designated OHV trails and, if street legal, opened roads.
- Continue to enhance the interpretive program to accurately and adequately develop an interest and understanding of the natural environment of the Forest and the coastal region of South Carolina, as outlined in the Francis Marion Interpretive Prospectus.
- Provide a coordinated program of awareness and training for all employees and partners (including outfitters and guides, governmental agencies and other interested organizations) to ensure a consistent program of public service.
- Developed recreational sites will require immediate control of wildfires at all fire intensity levels (no tolerable acreage loss).
- Vegetation along trails is treated to maintenance levels identified in FSH 2309.18. Priority is given to correcting unsafe conditions, preventing resource damage, and providing for intended recreational experience level.
- Develop a range of recreational opportunities within primitive, semi-primitive motorized, roaded natural and rural recreational opportunity spectrum classes.
- Visual quality objectives are met by corridor maintenance, site preparation, timber stand and wildlife habitat improvement, range forage and fuels treatment projects.
- Treatments are scheduled as much as possible for the season that best meets visual quality objectives. Rehabilitation and enhancement work may be needed to meet short-term visual quality objectives. Visual diversity along active travel ways (such as canopy layering, flowering trees) is protected from treatments where feasible and needed to meet visual quality objectives. Tool selection and coordination requirements are determined by a site-specific analysis at the project level.
- The landscapes around most travel routes continue to be managed to reduce the visual impacts of activities that might be seen by a passer-by. Generally, visual quality has improved. A greater portion of the Forest is classified as retention or partial retention. **There is less evidence of human activities to the casual visitor. Although human activity** may be evident in some areas, the activities remain subordinate to the characteristic landscape.

According to Forest plan monitoring the OHV use restricted to trails is difficult to achieve percent compliance for this standard. Improvements to the trail and at the trailhead have been effective in some instances. An estimate of a portion of illegal trails in 2010 documented over 2 miles of illegal trail. At the time of the 1996 plan there were estimated to be many more miles of illegal trail. Other standards, per monitoring reports, are being achieved. National visitor use monitoring has given the Agency greater confidence in the types and numbers of recreation users on the Forest, including visitors' satisfaction with the recreation and other programs.

There are two management areas that highlight recreation, management area 2–Wilderness, and management area 8–Special Areas. There are specific goals, desired future conditions,

objectives and standards associated with each management area. In the remaining management areas the emphasis on recreation is delivered mainly through the desired future condition statements.

- In MA 26 the desired future condition states, recreational experiences in this management area are roaded natural and rural, and recreational activities follow ROS criteria for those experiences. Recreational sites and trails are limited in areas that conflict with red-cockaded woodpecker nesting and cover requirements. Interpretive sites on ecosystem restoration and cultural heritage are found across this area. Recreational sites range from development scale 1–5.
- MA 27 states, this management area contains land that can accommodate a variety of recreational activities including a variety of trails and developed sites. The recreational experiences for this management area are mainly roaded natural with some rural experiences. Developed recreational sites range from development scale 1-5.
- MA 28 states, this management area contains land that can accommodate a wide variety of recreational activities including trails and recreational sites. The recreational experience for this management area is rural and roaded natural. Developed recreational sites range from development scale 1-5.
- MA 29 states, recreational facility development is generally provided to accommodate users at the perimeters of the area. Visitors are allowed to be self-reliant on their outdoor skills in an environment away from such comfort and conveniences that are normally found in developed recreational areas. Development scale ranges from 1 to 2. Honey Hill Campground is located in this management area and it is more developed (development scale 3) than the management area allows, contributing to an inconsistency in the management of the areas.

The majority of the Forest acres are in management areas 26, 27, 28, and 29. With some exceptions, (MA 2 and 8 direction, limitations in MA 26 for red-cockaded woodpecker and in MA 29), there is very little difference in plan direction for distribution of recreation programs. Direction on where to locate or emphasize certain recreation activities could be strengthened, through more place-based recreation direction.

Some recreation sites are being managed incompatible with management area prescriptions.

9.1.4 Recreation Opportunities: Dispersed

9.1.4.1 Current Conditions

Trails, hunting, fishing and a wide variety of non-consumptive uses make up the dispersed³ recreation on the Francis Marion. Dispersed use is generally well distributed throughout the Forest. Hunting and fishing opportunities are abundant across the Forest, while higher developed sites and activities are slightly clustered along the Highway 17 corridor (for detailed description of hunting and fishing see section 8.3 “Fish and Wildlife.”

³ The term “developed” recreation opportunities typically means that the use occurs within or near a facility, for instance picnicking at a picnic shelter or target shooting at a range. Often these facilities are constructed to help users enjoy the activity and to reduce impacts to the environment. “Dispersed recreation” typically means the activity or use occurs without much need for a constructed facility to enjoy the activity, such as hunting or hiking.

Trails

The trail program on the Forest includes 176 miles of a variety of trails—from hiking, mountain biking, and OHV to equestrian.

Table 9-5. Total trail mileage by type on Francis Marion

Trail Type	Miles
Hiking	68
Canoe/kayak	35
Equestrian	38
Off-highway vehicle	36
Total	177

The trail program offers a variety of settings for the trails, from semi-primitive motorized to more rural and roaded natural settings (see section 9.1.2 “Recreation Settings”).

The 51-mile **Swamp Fox National Recreation Trail** was designated in 1979 as a national recreation trail. National recreation trails may be designated by the Secretary of Interior or the Secretary of Agriculture to recognize exemplary trails of local and regional significance in response to an application from the trail’s managing agency or organization. Through designation these trails are recognized as part of America’s national system of trails.

A portion of the Swamp Fox Trail was also designated as the **Swamp Fox Passage of the Palmetto Trail**. This federally designated millennium legacy trail is one of only 16 cross-state trails in the United States. The Swamp Fox Passage is currently the longest section of the cross-State trail. The Awendaw Passage of the Palmetto Trail offers another 7 miles and is the coastal terminus of the Palmetto Trail, ending at the Intracoastal Waterway.

There are several interpretive trails and shorter distance hiking trails including **Historic Battery Warren, Sewee Shell Ring, I’on Swamp Interpretive Trail, South Tibwin, Huger Loop Trail** and **Nebo Trail**.

The Forest has multiple water-based trails from blackwater to brackish to fresh water streams (Figure 9-6).

Table 9-6. Water-based trails on the Francis Marion National Forest

Water-based Trail	Length in Miles (approximate)
Wambaw Creek	8.0
Chicken Creek	9.5
Awendaw Creek	7.0
Wadboo Creek	6.0
Echaw Creek	4.5
Total	35

Wambaw Creek is a peaceful, wilderness blackwater creek flowing through majestic cypress-tupelo stands. There are abundant opportunities to view wildlife such as prothonotary warblers, swallow-tailed kites, and river otters. Old dikes and canals bear evidence of attempts made by early European settlers to tame this region for agriculture. Giant cypress and gum trees line the

creek, which flows down the heart of this long, slender wilderness. This trail is located within the congressionally designated Wambaw Creek Wilderness.

Chicken Creek is an 8-mile canoe trail that takes the paddler down the historic Santee River, through the fast moving confines of Chicken Creek, back onto the Santee and up Wambaw Creek to the bridge at Echaw Road.

The Awendaw Creek is brackish water trail that travels inland through saltmarsh carrying paddlers under Highway 17 and through the Forest. Depending on the water level, the creek diminishes in the cypress/tupelo swamp near Steed Creek Road. Traveling oceanward, Awendaw Creek meanders through saltmarsh and oyster banks. Views of bluffs covered with live oak and palmetto trees give way to vistas of open water and red cedar-covered dredge islands of the Intracoastal Waterway. The creek provides access to Cape Romain National Wildlife Refuge, its barrier islands and great shore birding opportunities. Paddlers can spot a rich variety of wildlife such as dolphins, blue herons, fiddler crabs, pelicans, and oystercatchers. Paddling north on the Intracoastal Waterway, the trail ends at Buckhall Recreation Area, with a take-out at the boat ramp.

Echaw Creek Canoe Trail is a small blackwater creek winds through magnificent oak-hickory stands and cypress-tupelo swamps. Opportunities for viewing bobcats, owls, wild turkeys and more occur at every bend. The abundance of well-drained forests on the bank invites exploration on foot. The 2.2 mile Hellhole Bay Canoe trail is open during higher water times of the year.

The Wambaw Cycle Trail is a 36-mile motorcycle, OHV and mountain bike trail, this sandy course winds through fragrant pine woods with shimmering hardwoods in the understory. Along the way riders can glimpse vernal ponds with bald cypress as well as turkeys and white-tailed deer. While the trail is designed for motorcycles, it can accommodate OHVs under 50 inches wide and mountain bikes. Full-sized 4-wheel drive vehicles are not permitted and there is a fee for use of the trail. The trail is the only public OHV trail in the area; the next closest is Manchester State Park, over 1 hour away. Also, this trail system is the largest public opportunity in the State. Since 1996 multiple infrastructure improvement projects (geotextiles to improve tread, fencing, signage) have improved the overall condition of the trail. However, the trail condition can be challenging to keep maintained in the sandy terrain. Resource damage has occurred on the trail and in areas adjacent to the trail along stream channels and in and around wetlands (vernal ponds).



Wambaw Cycle Trailhead

Two horse trails, Tuxbury and Jericho combine to offer 38 miles on the Forest. Jericho's 18-mile loop trail traverses a wide array of habitat types, from mature longleaf pine stands to bottomland hardwood drains, and offers captivating scenery to visitors. Horseback riders and mountain bikers may glimpse prothonotary warblers darting among the trees. Tuxbury is a 20-mile loop trail ambles along old railroad logging trams, traversing a wide array of habitat types from mature longleaf pine stands to bottomland hardwood drains. It offers captivating scenery to

visitors who may glimpse prothonotary warblers darting among swamp cypress knees or endangered red-cockaded woodpeckers in search of food in the bark of majestic longleaf pines.

Mountain bikes are allowed on South Tibwin, Wambaw Cycle Trail, Tuxbury and Jericho horses trails, Swamp Fox Trail, Awendaw Passage of the Palmetto Trail that combine over 100 miles of opportunities.

Trail systems improvements and linkages to other trails and communities are ongoing, creating additional connections to the Forest. However, the 1996 Forest plan makes no mention of broader recreational planning efforts in which the Forest contributes, such as the Berkeley County Blueways paddling trail system, the Palmetto Trail, and the Southeast Coast Saltwater Paddling Trail. The 1996 Forest plan does not provide guidance on coordination of such recreation opportunities which span beyond Forest boundaries and require multi-management. In addition to the Statewide Palmetto Trail, these other efforts include:

The **East Coast Greenway** is a developing trail system that will eventually link Canada to Key West, Florida, and pass through Horry, Georgetown, Berkeley, Charleston, Colleton, Beaufort, and Jasper counties and accommodate bikes and walking. Over 25 percent of the route is already on traffic-free paths.

The **Southeast Coast Saltwater Paddling Trail** is a water-based trail connecting the Chesapeake Bay and the Georgia-Florida border. For over 800 miles, the trail hugs the coastal waters of Virginia, North Carolina, South Carolina, and Georgia, providing a unique opportunity for paddlers to experience an unbroken trail through four states in the tidal marshes and rivers of the southern U.S. A waypoint on the trail is Buckhall Recreation Trail on the Francis Marion National Forest.

The **Gullah Geechee Cultural Heritage Corridor** was congressionally designated on October 12, 2006. The Corridor was created to (1) recognize the important contributions made to American culture and history by African Americans known as Gullah Geechee who settled in the coastal counties of South Carolina, Georgia, North Carolina, and Florida; (2) interpret the story of the Gullah Geechee and preserve Gullah Geechee folklore, arts, crafts, and music; and (3) assist in identifying and preserving sites, historical data, artifacts, and objects associated with the Gullah Geechee for the benefit and education of the public. Multiple resources within the corridor are on the Francis Marion National Forest.

South Carolina State Trails Plan proposed multiple extension and connections in the South Carolina Regional Trails Plan for the region of Berkeley, Charleston, and Dorchester counties.

The State of South Carolina has taken a positive stance to ensure that the waterways of the State will always be available for public use. Because of its physical relation to the water, Berkeley County offers an excellent venue for kayaking as well as other water sports and the blueways in the area represent one of the County's greatest assets in terms of recreational value. The **Berkeley County Blueways** paddling trail system identifies over 175 miles of total water course from 23 trails and is a result of the vision and efforts of many individuals and organizations working in partnership (Berkeley County 2010).

Hunting and Fishing

Hunting is one of the largest recreation uses on the Francis Marion. Fishing is also very popular with over 19 managed ponds on the Forest. For a full description of hunting and fishing opportunities and management see section 8.3 "Fish and Wildlife."

Non-consumptive Uses

Many activities on the Forest are non-consumptive and include birding, nature study, viewing wildlife, bird and fish, viewing natural features (scenery), visiting historic/prehistoric sites, driving for pleasure and visiting historic/prehistoric sites. These activities can be done largely year-round with the hot summer and mild winters.

9.1.5 Recreation Access

9.1.5.1 Current Conditions

The Francis Marion provides access to recreation opportunities on the Forest through a multitude of options, including conventional two-wheel drive roads, motorized trails, non-motorized trails, and various types of developed sites with facilities such as campgrounds, boat launches, and picnic areas. There are over 575 miles of roads and 177 miles of trails on the Francis Marion (see section 11.4 “Roads” for a complete write-up of roads). See section 9.1.3 “Recreation Opportunities: Developed” and section 9.1.4 “Recreation Opportunities: Dispersed” for a complete write-up of trails. Due to the climate of the South Carolina coast, the use of the recreation access is generally year-round, with hot summers the most unpleasant time.

The majority of motorized access is available in the rural and roaded natural ROS settings. In the primitive setting on the Francis Marion there is currently a total of 8 miles of canoe trail that can use a 50 horsepower or less motor. The Forest is closed to motorized riding except on this designated trail system.

The Forest offers access to recreation with facilities at developed sites, including campgrounds, group camps, picnic or day use areas, boating sites, and interpretive sites. Under existing conditions on the Forest many of the recreation facilities at developed sites are in a deteriorated condition and in need of substantial capital investment for repair and maintenance. As with other forms of access, available funding has not been sufficient to address this need for capital investment because of a declining budget.

Trends for access on the Forest continue to be challenging because it is difficult to maintain infrastructure due to declining Federal budgets. Hence, the contributions of partners and volunteers in maintaining or promoting access on the National Forest will become even more crucial in the future. The Berkeley, Charleston, and Dorchester Council of Government completed a long range transportation plan for the three counties which, in addition to roads, included bicycle and pedestrian elements. The plan states transportation no longer focuses solely on roadway solutions, and in the quest for an improved quality of life, they now strive to enhance the livability of our communities. The plan acknowledges the numerous benefits of walking and biking including personal benefits (cardiovascular fitness, health and transportation cost savings), societal benefits (reduced vehicle miles of travel, improved public health through a cleaner environment,) and environmental benefits (reduces air and noise pollution and improved water quality from fewer parking lots/spaces/structures). Other than via roads, there are few physical connections linking the Forest with surrounding communities. There is great potential to “get connected” through trail networks that extend beyond Forest boundaries.

9.1.5.2 Current Management Direction

For current management direction and preliminary findings on trails see section 9.1.3 “Recreation Opportunities: Developed” and section 9.1.4 “Recreation Opportunities: Dispersed.” For current management direction and findings for roads, see section 11.4 “Roads.”

9.1.6 Scenic Character

9.1.6.1 Current Conditions

The visual management system identifies standards for managing aesthetic values and scenic quality of forests. Within the visual management system, five visual quality objectives describe a degree of acceptable alteration of natural landscape. The visual quality objectives assigned to the Forest landscape in the 1996 Forest plan are preservation (unaltered), including all wildernesses areas, retention (appears unaltered), partial retention (slightly altered), modification (moderately altered) (see Table 9-7). Visual resources on the Forest are presently managed to meet inventoried visual quality objectives. Management activities are planned and mitigation measures are prescribed so that visual quality objectives for affected lands will be met.

Table 9-7. Visual quality objectives (1996 revised Francis Marion plan)

Visual Quality Objectives	Acres
Preservation	13,812
Retention	24,785
Partial Retention	34,954
Modification	172,078
Total Inventory	245,629

The visual management system and visual quality objectives had been used since the mid-1970s as the preferred analysis tool for determining effects to scenery from proposed activities. However, in December of 1995, a new handbook guiding the management of scenery and aesthetics on the Forest (Agriculture Handbook 462 National Forest Landscape Management: Volume 2, chapter 1: The Visual Management System) was superseded by Agricultural Handbook 701, Landscape Aesthetics - A Handbook for Scenery Management (SMS).

During the current effort for Forest plan revision, the scenery management system will replace the visual management system. Scenery integrity objectives instead of visual quality objectives will be the frame of reference to describe the naturalness or visual resources of forestland. Scenic integrity objectives are comparable to visual quality objectives in their reference to alterations in landscape. All or parts of the resource will be re-inventoried during the plan revision process, including existing and potential scenic character descriptions of the Forest, including new acquisitions since the last plan revision.

Some common developments on forestlands that can alter scenery include large-scale powerline development and cell phone towers. Some of these developments act as visual disturbances that detract from the form, line, color, texture, pattern, and scale of the surrounding landscapes. Natural disturbances like hurricane and wildfire and insect and disease outbreaks can also detract from the scenery resource. Land management practices, like prescribed burning, can be noticeable, but for the most part the natural environment of the Forest setting remains dominant.

Critical to maintaining the quality of the recreation experience is managing the setting by preserving visual quality and valued attributes of aesthetic quality, conserving the vegetative context, and maintaining and enhancing a unique sense of place by building on what people value about that place. During public meetings, the scenery of the Forest was mentioned often with an affinity for the long leaf pine ecosystems as well as the many diverse areas of the blackwater swamps, Carolina bays, and other unique areas.

9.1.6.2 Current Management Direction

See “Current Management Direction” in “Developed Recreation” section.

9.1.6.3 Preliminary Findings

The visual management system with associated visual quality objectives will be updated with newer scenery management system, (Landscape Aesthetics: A Handbook for Scenery Management, USDA 1995).

Note: Internal information sources for this section include:

1. Geographic Information Systems (GIS) database
2. Natural Resource Management (NRM) database
3. National visitor use monitoring.
4. Recreation opportunity spectrum
5. Visual quality management
6. Local research station reports or analyses.

External information sources include:

1. State comprehensive outdoor recreation plans.
2. State or county land management planning and strategy documents.
3. National surveys on recreation.
4. Volunteered data from special use permittees.
5. Relevant analysis or information offered for consideration by the public about recreation or scenic character (i.e., Crowdbrite and public meetings)
6. Travel and tourism reports.
7. Non-governmental organization reports
8. Comprehensive plans of states, counties, or cities or plans of these governments focused on recreation, infrastructure, or transportation.